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Neurologic complications of systemic cancer

OVERVIEW

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In a previous edition of Cancer Forum (1998 Jul;22(2)) we discussed the management of primary tumours of the central nervous system (CNS). A more common scenario for the oncologist is the patient with cancer who develops neurologic complications. The difficulty is to determine as quickly as possible the anatomical site ("where is it"?), which often helps to answer the second question of "what is it"?. Associations of certain tumours with particular complications can be helpful. For example, adenocarcinomas and melanoma are more common causes of leptomeningeal metastases, while small cell lung carcinoma (SCLC) is the tumour most likely to be associated with paraneoplastic neurologic phenomena.

Management of cerebral metastases

In this forum, Ryan has expertly summarised the issues regarding the management of this common complication. From a neurologic perspective, radiation encephalopathy is a real phenomenon and occurs more commonly in elderly patients. I have seen patients whose neurologic deterioration was rapid and progressive within weeks of radiation. Underlying vascular disease or diabetes may be additional risk factors. However, it is also true that progressive disease has an equally devastating effect on neurologic function. This debate has been seen in primary CNS lymphoma, in which longer survival with chemotherapy increases the risk of whole brain radiotherapy. Patients over the age of 60 are at particular risk. This certainly should inform the decision-making in prophylactic cranial irradiation of SCLC.

Another issue relates to what are appropriate endpoints in trials of brain metastasis therapy. In one pilot study of chemotherapy, patients came off study with progression without reaching the study’s endpoints. In the study of Mitomycin C that is currently being run in a number of sites in Australia, targeting patients with cerebral metastases associated with non small cell lung carcinoma (NSCLC), neuropsychologic assessments are included. In addition, a blinded panel of neurologists is being used to define patient progression. Imaging is not a criterion and not required. The US Food & Drug Administration has made it clear in these studies that radiologic response criteria are not rigorous or representative enough to ensure registration. In therapies that are not likely to improve the survival of one group, quality of life and neurologic function are appropriate and meaningful endpoints, but the assessment tools need to be improved.

Leptomeningeal metastasis

The data on management of this complication are limited to small and often retrospective data. Early diagnosis can be important as most fixed deficits are not reversible with therapy, except in patients with lymphoma. It is important to think of this condition to make the diagnosis. Other potential approaches include a fortnightly intrathecal injection of slow-release Cytarabine that is associated with fewer injections. Others have used high dose Methotrexate to bypass problems with CSF flow obstruction. Siegal has discussed the importance of systemic therapy, and argued that this is as active as intrathecal therapies.

Neurosurgery and malignancy

Metastatic spinal cord compression is a true medical emergency and, as Rogers discusses, delayed diagnosis is associated with significant neurologic deficits due to paraplegia or quadriplegia. There is no simple formula for identifying which patients are suitable for surgery, but the Regine study certainly should encourage surgical consideration early.

The clinical warning signs include persistent back pain, with circumferential radicular referred pain and associated with contralateral sensory loss to pain and temperature. Pyramidal weakness of the limbs may follow.

The range of new neurosurgical approaches above that of laminectomy make the procedure applicable to more patients, with the potential to improve quality of life. It still remains difficult to lay out clear guidelines to decide who should, and should not, be operated.

Similarly, the ability to deal with painful brachial plexopathies surgically can make a difference to pain management. A multidisciplinary approach allows for improved management of these complex problems.

Neurologic complications of chemotherapy

As outlined in my paper, it is usually possible to identify specific syndromes associated with certain drugs. Less common reactions need to be considered, and as new drugs, including biological therapies, become available, we may discover new syndromes.

Paraneoplastic neurologic syndromes

While uncommon, these conditions can be devastating for the patient, and are a fascinating window into the interaction between cancer, the immune system and the brain. These syndromes can occur unrelated to malignancy, particularly Lambert Eaton myasthenic syndrome. Other examples are...
As mentioned by Sutton, antineuronal antibodies may not be present and novel antineuronal antibodies can be found in individual patients whose significance is not clear. The most common antibodies (Hu, Ri, Yo) are available in Australia, but the more recently defined ones are not. It is impossible to send specimens to one of the US labs such as that of Dr Josep Dalmau (jdalmau@oal.com).

It appears that the antibodies are not likely to be pathogenic, and recent evidence has focused on the role of killer T cells. One model suggests that apoptotic tumour cells are presented to dendritic cells, producing antigen-specific T cells.

Hopefully, as our understanding improves therapies will also. We hope you find this update of the diverse intersection between oncology and neurology.

Brain metastases 2004: Not the end of the line

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Introduction

Fifteen years ago, the development of brain metastases was regarded as such a negative prognostic event that for most patients it meant the cessation of active systemic management, and many were discouraged from having even palliative radiotherapy, which was the standard treatment approach at that time. Deaths usually ensued, with untreated patients having a median survival of only four weeks. However, the intervening years have seen a number of clinical trials and developments in all modalities of oncology that have made this earlier view outmoded. Today the trend is to adopt a much more active approach to the treatment of patients with brain metastases, and to individualise treatment based on a number of patient and disease-related factors. The aims of this approach are to reduce neurological morbidity and mortality in patients with brain metastases, and thus improve both their quality of life and ultimately their survival.

Radiotherapy

Whole brain radiotherapy (WBRT) remains the most appropriate treatment for the majority of patients with brain metastases. A number of studies have attempted to improve the efficacy of WBRT by the addition of radiation sensitisers such as RSR13 and methoxafin gadolinium, or concurrent chemotherapy. The combination of WBRT and radiation sensitisers appears to result in minor gains in survival and/or to neurological progression in very specific sub-populations of patients with brain metastases, and studies are ongoing. Concurrent chemotherapy trials have suffered from difficulties with accrual, but significant benefit with older chemotherapy agents such as carboplatin has not been clearly demonstrated. However, newer agents may be more successful in this setting. Phase I/II studies of Topotecan in combination with WBRT have demonstrated encouraging early results. There has also been a phase II randomised trial showing a survival advantage in survival and time to neurological progression in patients treated with concurrent and adjuvant temozolomide and WBRT 40 Gy compared with WBRT alone. Larger randomised studies will be needed to confirm the results of these small studies.

One area of increasing interest is that of prophylactic cranial irradation (PCI). Meta-analysis has now confirmed this as not only reducing the incidence of brain recurrence in patients with small-cell lung cancer who achieve a complete response in their primary disease by over 50% (relative risk 0.46), but also has demonstrated increased survival in PCI-treated patients (16% reduction in risk of death, with a 5.4% increase in three-year survival). PCI for non-small cell lung cancer (NSCLC) has not been so successful; however, with better staging, particularly PET scanning, and more effective primary treatment, the role of PCI for NSCLC treated patients has been re-evaluated, with several randomised studies in progress.

One of the major concerns with WBRT has been the potential for late toxicity. Although most patients with brain metastases treated with WBRT do not survive 12 months, there is a significant tail of survival, and the survival data are complicated by a worrying incidence of long-term dementia in patients who survived more than 12 months. Recent trials, however, indicate a much lower risk of long-term toxicity. Tests of neurocognitive function in patients treated with PCI do not show any excess of long-term impairment compared with the non-PCI group. Fractionation may be important, and it is probably best to avoid fraction sizes greater than 3Gy in patients with better prognosis.

But what defines “better prognosis disease”? Although the RT0T trials did not show an advantage to any specific radiation schedule, they did allow the identification of subgroups with different prognoses. This prospective partitioning analysis (PPA) assigned patients to one of three groups. PPA class I patients had Karnofsky scores of > 70, age < 65 years, 2 controlled primary disease and no extracranial metastases. PPA class II patients had Karnofsky scores of < 70, with or without other uncontrolled metastases. PPA class III included all other patients. Survival in the three groups, 1, 2, and 3, was 7.1 months, 4.2 months, and 2.3 months respectively. The PPA class can thus be used as a guide to the aggressiveness of the treatment approach.

Surgery

The landmark surgical study was performed by Patchell, who randomised 48 patients with single brain metastases to either surgery plus WBRT or WBRT alone. The radiation dose for both groups was 36Gy in 12 daily fractions. There was a statistically significant increase in survival for the surgical group (40 weeks vs 15 weeks). In addition, the time to recurrence of brain metastases, freedom from death due to neurologic causes, and duration of functional independence were significantly longer in the surgical group.

Importantly, the one-month mortality was four percent in each group, indicating that there was no additional mortality resulting from surgery. A subsequent Dutch study using a different radiation schedule (40Gy in 20 fractions) showed a similar survival benefit with surgery. The data with a trend toward longer duration of functional independence in these patients. A negative Canadian study has been criticised because the patients were not selected to lead to poor results in its surgical arm compared with the other two studies, and its results thus largely disregarded.

The two positive studies established the role of surgery in the treatment of patients with a single brain metastasis. Two further studies have added to the picture. The first was whether surgery would be beneficial for patients with more than one brain metastasis. To date there remains no definite evidence to support a survival advantage for surgery over WBRT in this situation. The second controversy is in patients with multiple metastases in specific situations, eg a dominant lesion responsible for most of the patient’s symptoms (large posterior fossa metastasis, metastasis with large area of associated oedema), or residual/recurrent symptomatic lesion following radiotherapy. Neurological morbidity, if not survival, can be considerably improved by this approach. The more controversial question remains whether patients with a single metastasis which has been resected benefit from the addition of radiotherapy. The one randomised study looking at this question of PCI in selected patients, the incidence of in-brain recurrence both at the index site and elsewhere in the brain, and in neurological morbidity. However, no survival advantage could be demonstrated. This has been interpreted by some as a reason to defer radiotherapy, with avoidance of neurological morbidity being cited as a major benefit; however, the toxicity of WBRT is generally modest, and should be balanced against any reduction in neurocognitive function that results from recurrent brain metastases. WBRT given at the time of recurrence may not improve this, even with objective response to chemotherapy, as the negative study results, Patchell remains convinced there is a strong argument in favour of adjuvant WBRT following focal therapy.

There is a small subgroup of patients whose solitary brain metastasis is either the presenting symptom of their malignancy, or is found on initial staging. Several small retrospective series support a radical surgical approach at both sites in such patients, including a local study of 20 patients who reported a zero mortality rate with this approach, and a median survival of 12 months.

Radiosurgery

Radiosurgery is a radiotherapeutic technique that delivers high dose, highly conformal, small field radiotherapy to brain lesions that might otherwise be surgically inaccessible. Although there are many retrospective reports of its efficacy in the treatment of brain metastases, there is a paucity of randomised data. The largest randomised study is the RT0G 95-08, which compared WBRT 37.5Gy plus radiosurgery with WBRT alone with up to three brain metastases. Patients with single metastases treated with radiosurgery plus WBRT had a significantly longer survival than those treated with WBRT alone (6.5 months vs 4.9 months), but in those with two or three metastases there was no significant difference in either survival or local failure rates. There was no significant difference in the cause of death for either arm.

Comparison of the results of radiosurgery plus WBRT for single brain metastases appear to be similar to those of surgery plus WBRT, although no direct randomised comparison has been undertaken to date. A current randomised Trans-Tasman Radiation Oncology Group (TROG) study hopes to answer this question definitively. In the interim it is reasonable to offer radiosurgery as an alternative to surgery in patients with single metastases less than 3cm in diameter not demonstrating a significant mass effect. Radiosurgery may also be considered for patients treated surgically, where there is known or suspected small volume residual disease, although there is no published data to support this approach at present.

Chemotherapy

The long-held view that chemotherapy was unlikely to be successful for brain metastases because of the blood-brain barrier has been challenged by the demonstration of significant response rates. The current view is that brain metastases themselves cause disruption of the blood-brain barrier and that the lack of response is usually a function of the treatment regimens used in the past more related to ineffective agents given as second- or third-line therapy. Despite this optimism, most of the supporting evidence for chemotherapy remains anecdotal, with a paucity of clinical trials. Temozolomide and Topotecan are the most promising agents, with small phase II trials having response rates of 30-40%, including patients previously irradiated. Larger clinical trials are needed to confirm these findings, and also to investigate newer molecular-based therapeutics, alone and in combination with currently available treatment options, to determine the optimal application of chemotherapy.

It may be reasonable to consider chemotherapy as first-line treatment for patients with brain metastases causing little or no neurological morbidity, and who have an indication for systemic chemotherapy for metastases elsewhere in the body. However, if unnecessary neurological morbidity is to be avoided, such patients need to be carefully monitored, and other treatment modalities introduced promptly if there is not good early evidence of response.

Conclusion

There is one size-fits-all approach for patients with brain metastases. A treatment plan based on careful consideration of individual patient, disease status and treatment parameters will maximise the outcome for the patient, in both survival and quality of life. Such decisions are best made in a multidisciplinary

References

Lumbar punctures. These false-negative results may result from strong adherence of malignant cells to the leptomeninges or to the presence of focal rather than widespread leptomeningeal tumour.

Obtaining CSF from a different site than the lumbar space, such as percutaneous cisternal puncture, may improve the yield of positive cytology, and this may be true particularly in patients with predominantly cerebral symptoms. In some instances cytology of ventricular fluid obtained through an intraventricular reservoir is positive while lumbar cytology is negative. Other factors, such as increased protein, raised white cell count, low glucose, raised opening pressure and elevated tumour markers may give an indication of the presence of LM, but they are not diagnostic since they may be abnormal in other conditions. Clinical circumstances CSF cannot be obtained, for example, in patients with raised intracranial pressure and in patients with a coagulopathy.

Neuroimaging is an additional tool to assess for LM. Neuroimaging is useful both to help confirm a clinical suspicion of LM and to exclude other causes of neurological symptoms and signs. Magnetic resonance imaging (MRI) may be abnormal in patients with LM, but these abnormalities are often not specifically diagnostic of LM. The use of neuroimaging in the clinical decision-making process in the cancer patient suspected to have LM has been examined. In this study MRI findings were classified as either positive, suggestive, or negative for LM. Positive scans were those that showed clear leptomeningeal enhancement in the brain, spinal cord or cauda equina, or subependymal enhancement. Suggestive scans included those with involvement of the leptomeninges and a change in the convexity of the brain surface but not extending into sulci. These imaging techniques provide a more specific basis for surgical intervention, and the presence of leptomeningeal enhancement in a patient with prostate cancer, for example, is a strong indication for neurosurgery. MRI has a higher sensitivity in the detection of leptomeningeal enhancement than CT, with sensitivities of 80% compared to 50% for CT. MRI also has a higher specificity, with specificities of 95% compared to 70% for CT. Neuroimaging is also useful in the follow-up of patients with LM to assess the response to treatment and to detect early recurrence.

LM may also be detected through the use of PET scans. PET scans are useful in the detection of LM because they are able to detect metabolic changes in the brain. PET scans can detect changes in glucose metabolism in the brain, and this can be used to detect LM. PET scans are also useful in the detection of LM because they are able to detect changes in the blood flow to the brain. This can be used to detect LM because LM can cause changes in the blood flow to the brain.

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References
Vertebral column surgery for metastatic disease

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Introduction

The role and value of surgery in vertebral column metastatic disease is still poorly understood. In the opinion of the author this precludes a number of patients from being offered an appropriate surgical option as part of an individualised management strategy.

Until recently, only one study was available in the literature comparing the outcome of a surgical procedure (laminctomy only) followed by radiotherapy, to radiotherapy alone for epidural metastases. It is over 20 years since its publication. A comprehensive review of the literature relating to the evidence for surgical intervention in spinal metastatic disease recently has been published. The conclusion of the authors was that no guidelines could be provided in relation to surgical management due to insufficient evidence; they did however produce their own recommendations.

The prediction of certain tumours for bone (especially the spinal column) is well documented in clinical and autopsy studies and therefore with an ageing population the expectation would be for an increased incidence of patients presenting with symptomatic metastases.

Apart from direct surgical intervention, in selected cases there may be a role for vertebroplasty and kyphoplasty which would provide immediate stability to the affected spinal column. This would not be available as an option to patients whose load of spinal disease may range from a solitary lesion to extensive non-contiguous disease.

What are the aims of surgical intervention?

It must be made clear to the patient and relatives that surgical intervention for symptomatic spinal lesions is not curative; there is currently no data to support the proposition that it will improve survival duration. Surgery can be a powerful palliative tool aiming to improve quality of life; it can do this by providing pain relief and maintaining or restoring neurological function. Patients presenting with paraplegia of greater than 24 hours duration have very low rates of neurological salvage.

Recently, a study has been published in abstract form that looked at 101 patients with malignant spinal cord compression due to solid tumour metastases. The patients had only a single site of cord compression, and were randomised to surgery (within 24 hours) and radiotherapy or radiotherapy alone. Sixteen patients in each group were unable to walk at study entry. Fifty-six percent of patients in the surgical group recovered their ability to walk, while only 19% in the radiotherapy group achieved the same level of function (p=0.03). Overall, the surgical group retained their walking ability significantly longer (median 126 days vs 35 days, p=0.006). Morphine and dexamethasone use was significantly reduced in those receiving surgery. While survival was not significantly different, there was a trend to longer survival in those receiving surgery.

Surgical procedures

The initial referral, radiotherapy or surgery

Radiotherapy has an important role where vertebral body height is preserved and the tumour is radiosensitive. Radiotherapy has no role where there is spinal column deformity causing pain or neurological dysfunction, or when bony fragments as opposed to epidural (soft) tissue cause neural compression (spinal cord, cauda equina or nerve root). Surgery can be offered when radiotherapy fails, however, the rate of neurological salvage declines and surgical morbidity increases (particularly wound infection rates) in a previously irradiated field.

Patient selection

This is one of the most difficult and crucial components of management. It is generally agreed that the anticipated minimum length of survival should be three months. Beyond this there are numerous variables that are considered by the surgeon making the assessment. The factors that require consideration include the patient’s systemic condition (nutritional and functional status), the sites of other non-spinal metastases and the impact of chemotherapy and prior irradiation on immunologic function.

MRI is undoubtedly the diagnostic procedure of choice, and can assess for compression at multiple sites.

Surgical procedures

The gamut of surgical procedures that can be offered to patients whose load of spinal disease may range from a solitary lesion to extensive non-contiguous disease.

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Surgical procedures

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Thoracic spine

In the thoracic spine anterior pathology at the cervico-thoracic junction or in the upper thoracic region (T1-T2) can be approached via a ‘modified anterior approach’ which requires resection of the medial third of the clavicle and the sterno-clavicular joint.

From T4-T12 a thoracotomy (trans-thoracic approach) provides the best access (figure three).

Posterior approaches in the thoracic spine will usually involve removal of the lamina and on occasions the pedicle to facilitate spinal cord decompression. In select patients who have severe circumferential cord compression anterior and posterior approaches may be combined (figure four).

Lumbar spine

Pathology in the lumbar region is usually approached from posterior approaches; however, anterior access is required for decompression of the conus or cauda equina this is usually via a retro-peritoneal route (figure five).

Surgical complications

The most common post-operative complication in the majority of surgical series for spinal tumours is wound infection and/or collapse or progressive neurological deterioration who are being considered for surgical intervention should avoid preoperative radiotherapy. The decision to proceed to surgical intervention can be made only after multiple factors, which importantly include the wishes of the patient, are considered.

Conclusions

Patients with spinal cord compression caused by bone instability and/or collapse or progressive neurological deterioration who are being considered for surgical intervention should avoid preoperative radiotherapy. The decision to proceed to surgical intervention can be made only after multiple factors, which importantly include the wishes of the patient, are considered.

References


Figure 1: CXR showing left sided apical lung tumour. This tumour will present with symptoms relating primarily to the lung tumour itself, or alternatively, may present with neurological symptoms, including pain, numbness, wasting or weakness in the ipsilateral hand, and may have a Horner’s syndrome. The mode of presentation may result in a delay in diagnosis (eg hand pain mistaken for carpal tunnel syndrome), however, these tumours are always seen on a chest x-ray, and therefore, diagnostic delay should not be a common occurrence (figure one).

Brachial plexus surgery and apical lung tumours

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Historically, management of apical lung tumours (superior sulcus tumours or Pancoast tumour) that involve the brachial plexus has been very limited, and usually all that was offered was palliative care. However, several advances have been made in the management of these tumours, such that the aim of treatment now is complete clearance of macroscopic tumour. The surgical approach, as well as changes in the use of induction radiotherapy and chemotherapy have resulted in improved functional and survival outcome in these patients. Based on our experience in treating these patients at the Austin Hospital, we present the following overview of our strategy in managing these difficult tumours.

Clinical presentation and investigation

Patients with apical lung tumours involving the brachial plexus will present with symptoms relating primarily to the lung tumour itself, or alternatively, may present with neurological symptoms, including pain, numbness, wasting or weakness in the ipsilateral hand, and may have a Horner’s syndrome. The mode of presentation may result in a delay in diagnosis (eg hand pain mistaken for carpal tunnel syndrome), however, these tumours are always seen on a chest x-ray, and therefore, diagnostic delay should not be a common occurrence (figure one).

Treatment

All patients are now receiving induction chemotherapy and radiotherapy before undergoing surgery. Despite our initial reservations, we have not found that this causes any significant peri-tumoural fibrosis. In all cases, surgical dissection has proceeded smoothly despite the completion of radiotherapy a few weeks earlier. However, in a few tumours, we have noted significant intra-tumoural fibrosis, which was histologically, with replacement of viable tumour by fibrotic tissue. The chemotherapy and radiotherapy protocols are beyond the scope of this paper, however further details are available in some of our patients, definite reduction in tumour size has followed the preoperative chemotherapy and radiotherapy, however this is not a universal finding.

The surgical procedure is performed by a thoracic surgeon and a neurosurgeon working together. A modification of the posterior subcapsular approach is used. A thoracotomy approach is utilised with the patient in a lateral position, with the ipsilateral arm brought across the chest to help with lateral mobilisation of the scapula. The dissection exposes the first and second ribs, their articulation with the spinal column, and the upper lobe of the lung. The first priority is to display the lower elements of the brachial plexus, and to dissect the tumour off C8, T1 and the lower trunk. The tumour is then ‘delivered’ into the chest, and the resection proceeds according to the anatomical profile of the tumour, as shown on the pre-operative imaging. We have encountered three types of tumour, and treated each type differently. Type 1 tumours are small and restricted to the lung apex, in which case a segment of lung is resected. Type 2 tumours are more extensive and have required a formal lobectomy. Type 3 tumours have invaded the chest wall, and require resection of chest wall...

Figure 1: CRI showing left sided apical lung tumour. This tumour encroaches the C8 and T1 nerve roots of the brachial plexus.

The imaging studies required include chest x-ray, CT of the chest, and MRI of the chest, brachial plexus and cervical spine. The features peculiar to this type of tumour that need to be evaluated include the intra-thoracic extent of tumour (including other tumours within the lungs, bronchi, etc), as well as the neurological involvement of the lower trunk of the brachial plexus and the C8 and T1 nerve roots (figure two). The tumour may invade directly through the nerve root exit foramen, along the path of the nerve root, and enter the spinal canal, with resultant spinal cord compression. This needs to be thoroughly evaluated on the pre-operative imaging studies, as well as systemic staging.

In the absence of significant systemic disease, a multidisciplinary approach is used to treat the apical lung tumour.
neuropathies often disproportionately affect proprioception mediated by the large fibres, while the axonal neuropathies tend to affect pain and temperature pathways. Lhermitte’s syndrome is sometimes seen, suggesting central involvement. Importantly, patients with pre-existing neuropathies are at increased risk of severe neurotoxicity with any of the compounds listed below. Therefore patients with known familial (Charcot Marie Tooth) or acquired (diabetes, leprosy, leprosy neuropathies) neuropathies should in general not be treated with drugs toxic to the PNS.

Vincristine typically causes an axonal neuropathy with loss of small fibre function predominantly, a dying back neuropathy associated with inhibition of microtubule formation. Common as well are muscle pain, often with jaw pain. Autonomic dysfunction can cause constipation, and even postural hypotension. Foot drop occurs in more severe cases. Bulbar dysfunction has been reported in children at high doses. The taxanes also paradoxically stabilise and promote microtubule assembly, and can cause a significant neuropathy that is typically sensory but may in cases involve motor nerves as well. The pattern is predominantly axonal.

Cisplatin causes a demyelinating neuropathy, that may progress even after the cisplatin has been ceased. It is therefore worthwhile to monitor its progress in any patient, looking for a sensory ataxic gait and a good response for Cisplatin is a new platinum compound that uniquely has activity in colorectal carcinoma, but also has novel neurologic side effects that have been recently reviewed.1 It has both early and chronic effects, however, a detailed survival analysis will not be completed until five-year results are available.

Discussion

As with most cancer surgery, prognosis is dependant largely on the extent of tumour resection. Complete resection offers the best results. However, apical lung tumours offer several unique problems that limit management options in many cases. Many surgeons are reluctant to operate on lung tumours that involve the brachial plexus for fear of permanently injuring the ipsilateral upper limb. Furthermore, some surgeons are still concerned about operating on such tumours after radiotherapy and chemotherapy has been administered. There is now sufficient evidence in the literature, as well as our own experience, that these tumours can be safely resected after chemotherapy and radiotherapy, and that hand function can be preserved. It is the multidisciplinary approach that is critical to achieving good results for these patients, and such patients should be managed in a hospital that offers the combined expertise of a thoracic surgeon, neurosurgeon, radiation oncologist and medical oncologist.

Neurologic complications of cancer chemotherapy

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As neurologic complications of cancer are not uncommon, it is important for the oncologist to be aware of both the common and uncommon neurologic complications of chemotherapy. The clinical aspects of these interactions have been described in detail.1 A working knowledge of these interactions is helpful in identifying the cause of a patient’s symptoms, and help in management, particularly where specific therapies are available. Some are dose-related, while others may arise in the presence of specific risk factors. Lastly, some are idiosyncratic. Preventative therapies are being investigated and some show promise. Given the impact of neurologic dysfunction on quality of life, this will remain an important topic, particularly in those with good prognosis.

Peripheral nervous system (PNS) involvement

The most common effect of chemotherapy on the PNS is a sensory neuropathy. Neuropathies are often classified by the major nerve fibres types affected, eg large myelinated fibres versus the smaller unmyelinated fibres. Neuropsychologically, they are separated into neuropathies that have significant slowing of motor and/or sensory nerves, often associated with conduction block (demyelinating) and the axonal neuropathies in which the nerve fibre itself is damaged. The demyelinating elements as well as the lung resection (figure three).

Results

In five patients treated by the authors with apical lung tumours and brachial plexus involvement, macroscopic clearance of elements as well as the lung resection (table one). The pharyngolaryngeal dysaesthesias with feeling of respiratory obstruction or swallowing difficulty, may be disconcerting for the patient but are not dangerous. They may be reduced by slowing the rate of infusion. The features of the acute neuropathy are also summarised in table one. The acute neuropathy is common, but over time merges with the chronic symptoms.

There is good evidence that the chronic neuropathy is related to total dose administered. Dosing up to ~800 mg/m2 is associated with 16% grade 3 toxicity, while at doses above 1100 mg/m2, 50% of patients will be affected. Usually, tumour response is seen before these levels are reached, and oxaliplatin toxicity usually slowly resolves over 13 weeks, although can be permanent in some patients. At high doses, Lhermitte’s phenomenon and urinary retention can be seen.

The acute neurotoxicity seen with oxaliplatin is characterised by electrophysiologic evidence of segmental demyelination, and the findings are similar to the clinical manifestations of leucoencephalopathy. Three patients were recently described, including one patient who died and was found at post-mortem to have an ischaemic L temporal lobe lesion, consistent with the hypothesis that endothelial cell damage may be a pathophysiologic event. Cisplatin neuropathy is more commonly associated with hypomagnesaemia, which also should be treated, and seizure control is important.

Of the mustard alkylating agents ifosfamide is the most neurotoxic.1 It is usually reversible and associated with delirium and seizures and may occur four to six days after therapy. It usually resolves but persistent symptoms have been reported. Risk factors include renal or hepatic dysfunction, low albumin and neuplural or enteral fistulas. Methylethyl blue has been reported to be effective in reversing the encephalopathy7 perhaps by compensating for the mitochondrial toxicity of ifosfamide metabolites.2

We have seen a small number of patients with encephalopathy in association with cyclophosphamide who have partially responded to methylene blue. This has been in the context of relatively intense cyclophosphamide dosing. Thus it may be worthwhile considering this drug in other chemotherapeutic related acute encephalopathies. Methotrexate can cause an acute encephalopathy (<48 hours), a subacute encephalopathy in the week following administration and a chronic leukoencephalopathy, most

| Table 1: Clinical characteristics of platinum peripheral neuropathy* |
|-------------------|-------------------|-------------------|
|                    | Cisplatin         | Oxaliplatin       |                          |
| Incidence          | 45%              | 85-95%            | grade 3/4 in 16%         |
| DLT                | yes              | no                | yes                        |
| Symptoms           | paraesthesia,     | paraesthesia,      | paraesthesia, dysesthesia, |
|                    | dysesthesia,      | dysesthesia,       | dysesthesia, sensory ataxia|
| Location           | extremities,      | extremities, oral  | extremities               |
|                    | oral              | extremities       |                            |
| Trigger            | none              | cold exposure      | none                       |
| Motor symptoms     | none              | rare muscle spasms| none                       |
| Onset              | delayed           | acute             | delayed                    |
| Recovery           | slow, incomplete | rapid, complete   | less slow, more complete   |
| Schedule           | dependence       | yes               | yes                        |
|                    | none              |                  |                            |
| Other              | otoxicity         | pharyngolaryngeal | none                       |

Oxaliplatin: Chronic
commonly associated with whole brain radiotherapy. Usually, the last symptom is common if the methotrexate is given prior to cranial radiotherapy.

Neurocognitive effects of adjuvant chemotherapy

The long-term neurocognitive effects of whole brain radiotherapy have been reasonably studied, although more needs to be understood. With the increasing use of adjuvant therapies, brain is becoming a frequent target, particularly, in a wider group of patients for relatively small gains in cure and survival rates, a more careful assessment of subtle effects of therapies needs to be performed. The field has been well reviewed recently.10

These studies are not easy to perform. Detailed neurocognitive assessment is complex and time-consuming and therefore difficult to perform repeatedly. Other factors may intrude such as anxiety, fatigue, disease progression and hormonal changes. In brief, it can be said that neurocognitive deficits have been found in patients given adjuvant chemotherapy that are not seen in breast or lymphoma patients treated with localized therapy, or compared to healthy controls. There is not a close correlation between cognitive changes measured and recognized quality of life measurements.

As a result, longitudinal studies are now being performed. Screening tools sensitive to change such as Cogstate (www. cogstate.com) are being used in studies in Australia. It is important to stress that these effects do not equate with "brain damage" (Darby, personal communication).

References

1. Pomer EB. Neurologic complications of cancer. Contemporary neurology

Institutional investigation and management of paraneoplastic neurological syndromes

Paraneoplastic neurological syndromes (PNS) are rare, but severely disabling. Typically, patients present with neurological symptoms for which a cause cannot be identified. Paraneoplastic neurological syndromes are non-metastatic phenomenon and are considered to have an immune-mediated aetiology. In 1964 Wilkinson first identified patients presenting with antibodies in the serum of individuals with cancer who were also affected by sensory neuropathy and proposed that:

the tumour in a patient with sensory neuropathy may contain antigenic determinants not present in other tumours, and that these determinants are shared by some constituent of the antigenic determinants not present in other tumours, and that these determinants are shared by some constituent of the antigens of antibody binding observed on indirect immunofluorescence. Since paraneoplastic antibodies react with antigens that in most cases are specifically expressed in neurological tissues (the Ma1 antigen is additionally expressed in the testis) a specific neurological tissue (eg monkey cerebellum) is probed using patient serum and anti-neural antibody reactivity is detected using a labeled secondary human antibody that allows visualisation of specific antibody binding. The tissue distribution of target antigen determines the pattern of antibody binding observed on indirect immunofluorescence. For example, APC-1 is an acronym for anti-Purkinje cytoplasmic antibody (figure 1b) and ANA-1 is an anti-neuronal nuclear antibody (figure 1c). However, the gold standard for the determination of paraneoplastic antibody specificity is indirect immunofluorescence with antibodies and in seronegative patients in whom a paraneoplastic syndrome is suspected to have a PNS. Recent advances that acquire and define the anatomical site of malignancy.

In patients that are seropositive for paraneoplastic antineuronal antibodies and in seronegative patients in whom a paraneoplastic neurological syndrome is suspected, a number of studies have now been able to demonstrate the usefulness of [18F] fluoro-2-deoxyglucose positron emission tomography (FDG-PET) when conventional imaging techniques are negative or provide equivocal results. In a study of 43 patients suspected of having a PNS in whom no tumour was identifiable by conventional imaging or bronchoscopy, a hypermetabolic focus suggestive of malignancy was identified on FDG-PET in 16 cases. Although a false-positive scan was obtained in a patient with Guillain-Barré syndrome and negative studies were observed in two patients with anti-Hu antibodies,3 thereby alluding to some limitations of this investigation modality. FDG-PET is generally proving to be a valuable tool in the tumour diagnosis of patients suspected to have a PNS. Recent advances that acquire and fuse FDG-PET and CT data sets will further assist in precisely defining the anatomical site of malignancy.

Treatment of patients with paraneoplastic neurological syndromes

In the two-thirds of patients that present with a neurological syndrome prior to diagnosis of malignancy it is clearly imperative

antibodies initially involves testing of patient serum using indirect immunofluorescence (or immunohistochemistry) (figure 1a). Since paraneoplastic antibodies react with antigens that in most cases are specifically expressed in neurological tissues (the Ma1 antigen is additionally expressed in the testis) a specific neurological tissue (eg monkey cerebellum) is probed using patient serum and anti-neural antibody reactivity is detected using a labeled secondary human antibody that allows visualisation of specific antibody binding. The tissue distribution of target antigen determines the pattern of antibody binding observed on indirect immunofluorescence. For example, APC-1 is an acronym for anti-Purkinje cytoplasmic antibody (figure 1b) and ANA-1 is an anti-neuronal nuclear antibody (figure 1c). However, the gold standard for the determination of paraneoplastic antibody specificity is indirect immunofluorescence with antibodies and in seronegative patients in whom a paraneoplastic syndrome is suspected to have a PNS. Recent advances that acquire and define the anatomical site of malignancy.

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Treatment of patients with paraneoplastic neurological syndromes

In the two-thirds of patients that present with a neurological syndrome prior to diagnosis of malignancy it is clearly imperative...
to establish tumour diagnosis, and in those patients in whom a diagnosis of cancer is already established the onset of the neurological symptoms may coincide with disease recurrence. Therefore the onset of a PNS should prompt rapid investigation and institution of an appropriate anti-tumour therapy as soon as possible. In addition to treatment of the underlying malignancy in some cases successful tumour treatment is associated with beneficial effects on the neurological syndrome. This is illustrated by a study in which 51 patients with small cell lung cancer (SCLC), subacute sensory neuropathy/encephalomyelitis and anti-Hu antibodies received conventional SCLC treatment with 26 receiving additional immunotherapy to treat their neurological syndrome. Stabilisation of neurological symptoms was witnessed in 70% and complete response to tumour therapy was the only predictor of stabilisation of neurological symptoms. Even more striking results have been observed in the treatment of limbic encephalitis associated with testicular cancer and anti-Ma antibodies, with one study reporting complete resolution and partial response of neurological symptoms in seven patients with anti-Ma antibodies. Notably the improvement observed in all six cases with testicular cancer correlated with a complete response to tumour therapy. It remains to be established whether immunotherapy has any significant role to play in the treatment of neurological dysfunction in patients with PNS for several reasons. Firstly, PNS have been reported to improve spontaneously, although this is an infrequent observation. Secondly, PNS are rare disorders making it difficult to organise placebo-controlled, randomised, double-blinded trials. Finally, PNS are a heterogeneous group of disorders and may not all respond in the same way to a particular immunotherapy regimen. Nevertheless, there is a general consensus that immunomodulatory therapies are ineffective despite numerous case reports of neurological improvement following corticosteroids, ivIg, plasma exchange and cyclophosphamide. While one study has noted that improvement following corticosteroids, ivIg, plasma exchange and cyclophosphamide was ineffective despite numerous case reports of neurological improvement following corticosteroids, ivIg, plasma exchange and cyclophosphamide, the results of the largest trial of immunotherapy in PNS to date have not been published.13 This well-designed prospective trial included 20 patients with PNS after exclusion of those patients that were neurologically stable, those with chronic indolent disease and those with long-standing neurological deficits considered to be irreversible. It was planned that all 20 patients would receive a total of five plasma exchanges. The first treatment arm consisted of 10 patients without evidence of active malignancy who received standard-therapy, i.e. cyclophosphamide, however, in six out of 10 patients the six-month course could not be completed mainly due to profound leucopenia. The second group of 10 patients received placebo exchange and standard chemotherapy. In total of 10 the 20 patients improved or stabilised with no significant differences between the two groups. The remaining patients’ neurological status worsened and four died prior to the six-month study endpoint. On the basis of this study it is difficult to evaluate the role of plasma exchange and it should be noted that four of the 20 patients failed to complete the planned five exchanges.

My own practice is to administer plasma exchange to cases of limbic encephalitis in which dramatic improvements have been observed; otherwise patients receive a trial of ivlg.

**Table 1: Some paraneoplastic anti-neuronal antibodies and their clinical associations**

<table>
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<tr>
<th>Antibody</th>
<th>Also termed</th>
<th>Antigen</th>
<th>Neurological syndrome</th>
<th>Associated tumours</th>
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<td>Anti-Hu</td>
<td>ANNA-1</td>
<td>HuD</td>
<td>Paraneoplastic encephalomyelitis/ subacute sensory neuropathy</td>
<td>Small cell lung cancer (80%) Neuroblastoma</td>
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<td>Anti-Yo</td>
<td>APCAl-1</td>
<td>cdr 62, 34</td>
<td>Cerebellar degeneration</td>
<td>Ovary-gynaecological Breast</td>
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<td>Anti-Ri</td>
<td>ANNA-2</td>
<td>Ninova, 2</td>
<td>Brainstem-cerebellar</td>
<td>Breast (50%)</td>
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<tr>
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<td>Brainstem-cerebellar</td>
<td>Various</td>
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<td>Anti-Ta</td>
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<td>Recoverin</td>
<td>Photoreceptors</td>
<td>Retinopathy</td>
<td>Small cell lung cancer</td>
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</table>

**References**


**Conclusion**

Despite being rare neurological complications of cancer almost all neurologists and oncologists will encounter patients with PNS. PNS are typically subacute syndromes and most neurological deficits once established are irreversible. Since successful treatment of the underlying malignancy can arrest neurological deterioration it is important that the diagnosis of PNS is rapidly established and anti-tumour treatment initiated immediately. The more widespread availability of FDG-PET coupled to paraneoplastic antibody testing can significantly improve the speed of diagnosis, and considered application of test results can potentially have profound effects on patient morbidity, eg Rosnefeld et al reporting that a partial improvement in neurological function was observed in two patients with progressive neurological deterioration who underwent orchidectomy because of positive testing for MA2 antibodies and “minimal abnormalities on testicular ultrasound”.

tumours can evade immune surveillance and the report of Keime-Guibert et al observed patients with subacute sensory neuropathy/encephalomyelitis and SCLC had a median survival similar to that observed in SCLC patients without neurological dysfunction. Nevertheless, a higher probability of survival of PNS cases at 30 months in this study indicates that there is a subgroup of subacute sensory neuropathy/encephalomyelitis patients with improved overall prognosis.

In patients with paraneoplastic cerebellar degeneration (PCD) and anti-Yo antibodies an underlying gynaecological malignancy carries a poor prognosis. The study of Rojas et al., included 18 patients with PCD and anti-Yo antibodies and in 15 metastatic disease was evident at presentation and tumour progression was the cause of death in just over half of the cases. Interestingly, patients with breast cancer had a significantly better prognosis than those with gynaecological malignancy and in my own series of eight anti-Yo associated PCD cases a similar improved prognosis was observed in patients with breast cancer. Furthermore, in support of the tumour immunity hypothesis metastatic breast cancer may occur in PCD patients in the absence of a detectable primary lesion even with five years of follow up.**
Support for research 2004

The state and territory cancer organisations, which comprise The Cancer Council Australia, are the major sponsors of cancer research and related activities in Australia. Grants are made following a competitive, peer-reviewed assessment from funds derived from donations and bequests.

In 2004 the value of these grants is $23.5 million.

In addition, the grants for breast cancer research made by the National Breast Cancer Foundation are listed. The Foundation in 2004 the value of these grants is $23.5 million.

THE CANCER COUNCIL AUSTRALIA

Research grants

D Roos
Department of Radiation Oncology
Royal Adelaide Hospital
A phase III international randomised trial of single versus multiple fractions for re-irradiation of painful bone metastases
$40,000

T Corica, D Joseph
Department of Radiation Oncology
Sir Charles Gardiner Hospital
Targeted intraoperative radiotherapy for early breast cancer
$20,000

TOTAL RESEARCH FUNDED
$60,000

THE CANCER COUNCIL ACT

Research grants

R Stuart-Harris, D Byrne
AMU Medical School and
The Canberra Hospital
Coping styles and severity of toxicity from adjuvant chemotherapy for early breast cancer
$29,000

D Yip, P Cock, R Stuart-Harris, D Leong, A Davis
Medical Oncology Unit
The Canberra Hospital
A clinical trials cancer research program in the ACT
$32,000

Medical Oncology Unit
The Canberra Hospital
Scalp cooling equipment for the prevention of alopecia
$11,200

A Gardner, M Eggert
The Canberra Hospital and
University of Canberra
Research Centre for Nursing Practice
A post-intervention consumer satisfaction survey in the haematology/oncology unit
$3,304

The Cancer Council NSW
Cancer Trials NSW
$10,000

TOTAL RESEARCH FUNDED
$85,554

THE CANCER COUNCIL NEW SOUTH WALES

Research grants

M Stockler
University of Sydney
The ZEST trial: A double-blind, placebo-controlled trial of Zolft’s Effects on Symptoms and survival Time in advanced cancer
$65,425

V Ahern
Westmead Hospital
A phase III study of regional radiation therapy in early breast cancer
$38,362

H Gunney
Westmead Hospital
The timing of androgen deprivation in relapsing or non-curable prostate cancer patients
$10,650

R Bodnar
Children’s Medical Research Institute
Functions of ALT-Associated PML Bodies
$157,750

C Lean
University of Sydney
Improved management of thyroid disease by the correct pathological diagnosis obtained non-invasively by magnetic resonance at 3 Tesla
$150,000

G Hildyard
University of Sydney
The role of UVA in human skin carcinogenesis
$99,250

B Meiser
University of New South Wales
A randomised trial of a decision aid for genetic testing for hereditary cancer
$48,325

M Mitchell
University of New South Wales
The role of helicobacter pylori infection and host cytokine polymorphisms in the aetiology of gastric cancer
$110,366

TOTAL research grants
$680,128

Continuing research grants

P Hogg
University of New South Wales
Tumour angiogenesis
$216,000

G Marshall
University of New South Wales
Defining the cause and improving the treatment of childhood neuromuscular disease
$335,000

R Sutherland
The Garvan Institute of Medical Research
Steroid and growth factor signalling in the pathophysiology of breast and prostate cancer
$400,000

J Stevens
Southern Cross University
Sentinel node vs axillary clearance trial
$14,000

S Tangye
Centenary Institute of Cancer Medicine
Lymphocyte activation and anti-tumour immunity mediated via SAP-associated surface receptors in health and disease
$70,000

R Lock
University of New South Wales
Molecular mechanisms of drug resistance in childhood acute lymphoblastic leukaemia
$71,649

Q Dong
University of Sydney
The role of FHL1 and SPINK1 in androgen-independent prostate cancer
$60,000

R Mason
University of Sydney
Role of 1,25-dihydroxyvitamin D3 in photoprotection
$76,000

C Mountford
University of Sydney
MRI/MRS applied to breast cancer detection, diagnosis and prognosis
$70,000

M Tattersall
University of Sydney
When the treatment goal is not cure: A randomised trial of decision aids in patients with incurable metastatic cancer
$86,200

B Henderson
University of Sydney
Regulation of beta-catenin nuclear trafficking in cancer
$80,000

R Lock
University of New South Wales
Targeting angiogenesis signalling pathways in childhood acute lymphoblastic leukaemia
$80,000

A Grulich
University of Sydney
Cancer in dialysis patients and kidney transplant recipients: Incidence, risk factors and survival
$72,400

P Harvey
Newcastle Mater Misericordiae Hospital
Sensitisation of human melanoma to killing by the immune system
$139,620

R Ward
University of New South Wales
The significance of Cpg island methylation in the pathogenesis of hyperplastic polyps and colorectal cancer
$135,000

Peter MacCallum Cancer Institute
A role for peri-arterial epitopes in ovarian cancer study – WA, Tasmania and a national clinical follow-up core
$69,500

J Kirk
Peter MacCallum Cancer Institute
kConfab: A consortium for research on familial breast cancer
$57,000

Total continuing research grants
$2,026,369

Career development research fellowship

G O’Neill
Children’s Hospital Westmead
Cas proteins and breast cancer cell response to chemotherapy
$150,000

To be announced
$50,000

Total research fellowships
$200,000

Other research programs

Cancer Trials NSW
$1,205,000

Cancer Epidemiology Research Unit
$1,205,000

Cancer for Health Research & Psycho-Oncology
$595,000

Children’s Hospital Westmead
$57,000

Quality Cancer Research Project
$350,000

Strategic Research Projects
$83,393

Total other research programs
$3,333,493

TOTAL RESEARCH FUNDED
$6,239,990
### THE CANCER COUNCIL SOUTH AUSTRALIA

#### Research grants

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<td>A Forbes, F Mazza, P Bampton, J Edwards</td>
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<td>J Gamble, C Halm, M Vidas</td>
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### THE CANCER COUNCIL TASMANIA

#### Research grants

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### TOTAL RESEARCH FUNDED

$2,485,731
Reports

Research grants

D Byram, Launceston General Hospital
Randomised study of radiation therapy or Chemoriff to palliate symptoms of advanced oesophageal cancer
$1,180

R Lord, University of Tasmania
Further analysis of breast cancer using Proteomics
$25,000

Total research grants
$149,180

Funded by David Collins Leukaemia Foundation (amount not included in total research funded)

A Holloway, University of Tasmania
Regulation of gene expression by the AML 1 transcription factor in myeloid cells
$28,380

Jeanne Foster scholarships

A Tuhtovic, Royal Hobart Hospital
To do a post graduate diploma in oncology nursing through La Trobe University
$900

Taylor, Royal Hobart Hospital
To do a post graduate diploma in oncology nursing through La Trobe University
$900

T Hubbs, S Pracy, Launceston General Hospital
To attend and present a paper at the New Zealand Institute of Medical Radiation Therapy conference
$1,500

J Dalgleish
To attend the 12th “Reach to Recovery” International Conference for Breast Cancer Support Services in Lisbon, Portugal, 2004
$1,500

A Nivelle
To attend the annual conference of the professional body of radiation therapists in Cairns, 2004
$500

D Walsh
To earn in a 12 month course, the role of sternal therapy nurse, through the NSW College of Nursing
$1,000

J Hall
To attend the National Breast Care Nurses Conference in Brisbane, 2004
$250

I Clary
Currently enrolled in the University of Sydney’s School of Medical Radiation Services – to fund Current Issues in Medical Radiations
$500

Total Jeanne Foster scholarships
$7,050

Other research grants

I Riper, Royal Hobart Hospital
Athina Fonsadjakis Leukaemia Scholarship for professional development in cancer control
$5,000

C Kripa, Nolan Clinic, Royal Hobart Hospital
Athina Fonsadjakis Leukaemia Award
$2,000

J Brigman, S Wilson, Launceston General Hospital
The Advocate Athol Meyer Award – for excellence in media coverage of an issue cancer control
$1,000

Launceston General Hospital and Royal Hobart Hospital
Clinical trial data managers
$39,000

J Robertson, Clifford Craig Medical Research Trust
Tasmanian Familial Bowel Cancer Registry
$16,680

To be announced
PhD Scholarship in cancer and chronic disease prevention and management in rural areas
$24,000

To be announced
Tasmanian Accord Workshop for new researcher
$2,500

F Blomfield, Royal Hobart Hospital
Gynaecological cancer outcome data collection
$5,000

Total other research grants
$95,180

TOTAL RESEARCH FUNDED
$251,410

THE CANCER COUNCIL VICTORIA

Research grants

U Ackermann, H Tochen-Dangay, G O’Keefe
[1(°C) AG1478 - A potential PET tracer for the molecular imaging of the EGFR receptor in glioblastoma multiforme
$65,000

Austin Health

R Anderson
Peter MacCallum Cancer Centre
Cavendish-1 regulation of breast cancer growth and metastasis
$65,000

D Bonville, A de Fazio, D Wyld, D Whitman, D Gentil, M Fredfluender, P Hamett, M Davy, P Blomfield, N Zeis
Peter MacCallum Cancer Centre
Molecular epidemiology of ovarian cancer: Australian ovarian cancer study - Western Australia, Tasmania and a national clinical follow-up core
$60,000

I Campbell
Peter MacCallum Cancer Centre
Molecular and functional analysis of the chromosome 7q31 tumour suppressor gene ST7
$70,000

I Campbell, K Mitchelli, A Dobrovic, G Rice, M Quinn, N Ahmed
Peter MacCallum Cancer Centre
Biomolecular fingerprints as early diagnostic indicators of ovarian cancer
$70,000

H Cheng, University of Melbourne
Regulation of the tumour suppressor PTEN by phosphorylation and oligomerization
$4,000

F Chong, H Zhou
St Vincent’s Hospital
Urokinase plasminogen activator and oestrogen systems: regulation and progression in osteosarcoma
$76,000

B Chua, D Joseph, J Harvey, V Ahern
Peter MacCallum Cancer Centre
A phase I/II study of regional radiation therapy in early breast cancer
$70,000

P Darcy, M Kenward, J Trapani
Peter MacCallum Cancer Centre
Preclinical development of gene-engineered T cells for immunotherapy of cancer
$70,000

G Duchonse, N Spry, A Stapleton, H Gurney, E Beller
Peter MacCallum Cancer Centre
The timing of androgen deprivation in relapsed or non-curable prostate cancer patients
$10,610

M Ernst, P Waring
Ludwig Institute for Cancer Research
The tumourigenic effect of overexpression of DNA methyltransferases on the intestinal epithelium
$60,000

J Heierhorst
St Vincent’s Institute of Medical Research
A novel human DNA damage repair protein that interacts with the CHK2 and PML tumour suppressors
$60,000

P Hambly, S Russell, H Richardson
Peter MacCallum Cancer Centre
The role of mammalian sirtuin in proliferation and tumourigenesis
$70,000

R Johnstone
Peter MacCallum Cancer Centre
Mechanism of action of histone deacetylase inhibitors: novel anti-cancer drugs
$60,000

M Lackmann, P Gibb
Monash University
The role of EphA/Epikrin-A interactions in cutaneous melanoma: effects of Eph receptor activation on cell adhesion, mobility and viability during various stages of melanoma progression
$69,000

J Levesque, L Purton
Peter MacCallum Cancer Centre
Use of retinoids and inhibitors of endothelial cell adhesion molecules to enhance mobilisation of haematopoietic stem cells by G-CSF
$69,750

G Lindeman, D Amor, J Gold, Gattas
Peter MacCallum Cancer Centre
iConfab: A national consortium for research into familial breast cancer
$55,000

C Mitchell
Monash University
Role of the PIP7 lipid phosphate in cell differentiation and polarity
$68,250

S Nguyen, S McClishan, J Mackay, B Fisher
Peter MacCallum Cancer Centre
A randomised trial of preoperative radiotherapy for stage T3 adenocarcinoma of rectum
$20,000

S Nutt, L Wu
Walter and Eliza Hall Institute of Medical Research
The role of the proto-oncogene PTEN in haemopoiesis
$60,000

M Plebanski, M McKenzie
Austin Research Institute
The role of a novel suppressor T cell subset, Tr1, in breast cancer immunity
$68,000

H Puttharatkul
Walker & Eliza Hall Institute of Medical Research
Post-translational regulation of the pro apoptotic protein BIM
$55,000

J Rosselin
Monash University
A structural investigation into the role of the alpha-alpha integrin in cancer
$69,000

M Sim, G Benke
Monash University
Pesticide exposure and cancer in fruit growers and orchardists
$40,000

D Thomas, M Trinett
Peter MacCallum Cancer Centre
Interactions between cell cycle and differentiation processes in normal and malignant osteoblasts
$66,000

T Trapido
Monash University
Protein phosphatases and mitosis
$68,000

J Villadangos
Walter & Eliza Hall Institute of Medical Research
Mechanisms of cross-presentation in dendritic cells
$60,000

E Vincze, W Phillips
Peter MacCallum Cancer Centre
FZD7 signalling in colon cancer
$60,000

J Wesson
Victorian Breast Cancer Research Foundation
SOCS genes in the mammary gland and other organs – potential tumour suppressor genes?
$38,000

A Ward
Ovskin University
Isolation and characterisation of leiakemia mutants in zebrafish
$60,000

Total research grants
$1,706,650

Post-doctoral research fellowships

L Coutts, Walter & Eliza Hall Institute of Medical Research
$29,250

J Irving, Monash University
$29,250

N Crowe, University of Melbourne
$58,500

V Marsden, Walter & Eliza Hall Institute of Medical Research
$58,500

Total post-doctoral research fellowships
$175,500

Postgraduate research scholarships and vacation studentships

J Becanovic, Monash University
$21,150

M Hall, Peter MacCallum Cancer Centre
$27,150

L Davy, Peter MacCallum Cancer Centre
$21,150

H Gain, Ludwig Institute for Cancer Research
$27,150

K Horan, Monash University
$21,150

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**QUEENSLAND CANCER FUND**

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**QUEENSLAND CANCER FUND**

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### Other research grants

- QCIF/Griffith University: Cancer Support Centre (psychosocial oncology) $100,000
- Familial Adenomatous Polyposis Register $50,000
- Australian Paediatric Cancer Registry $70,000

Total other research grants $220,000

### PhD program 2004

**2004 – 2006**

- **John Earnshaw Scholar 2004**
  - M Jones, Queensland Institute of Medical Research
  - A Ramsay, Queensland University of Technology
  - S Mattarotto, University of Queensland
  - **2005 – 2007**
  - **John Earnshaw Scholar 2005**
    - L Packer, Queensland Institute of Medical Research
    - K Jawerth, Queensland Institute of Medical Research
    - E Hacker, Queensland Institute of Medical Research
    - R Parket, Mater Medical Research Institute
  - **2002 – 2004**
    - **John Earnshaw Scholar 2002**
      - M Rinaldi, University of Queensland
      - S Joseph, University of Queensland
      - L Papp, Queensland Institute of Medical Research
  - **John Earnshaw Scholar 2001**
    - R Stirling, Griffith University (took one year deferment 2003)

Total PhD program 2004 $228,000

### TOTAL RESEARCH FUNDING

$5,346,109

### NATIONAL BREAST CANCER FOUNDATION

#### Research grants

**NEW SOUTH WALES**

- David Jones Scholarship
- H Davey, University of Sydney
  - Communicating information to women about diagnostic tests for breast cancer $27,500
- Estelle Lauret Scholarship
- L Webster, University of Sydney
  - Determination of diagnostic molecular profiles for intraduct lesions of the breast $51,200
- National Network of Women In Super Scholarship
- B Thews, Prince of Wales Hospital
  - The fertility and menopause-related information needs of younger women with a diagnosis of breast cancer $51,200
- Kathleen Cunningham Research Grant
- G Mann, Westmead Institute for Cancer
  - Research Mapping and identification of novel breast cancer susceptibility genes $106,750
- Kathleen Cunningham Research Grant
- G Chenewin-Trench, Queensland Institute Medical Research
  - The role of the ATM gene in familial breast cancer $77,000

**SOUTH AUSTRALIA**

- Kathleen Cunningham Research Grant
- M Bottema, Flinders University of South Australia
  - Computer-aided detection of invasive lobular carcinoma in screening mammograms $55,000
- Kathleen Cunningham Research Grant
- G Gill, Royal Adelaide Hospital
  - Sentinel node biopsy versus axillary clearance in early breast cancer: the SNAC trial $99,454

**VICTORIA**

- Breville Scholarship
- N Fleming, University of Melbourne
  - Investigation of the role of parathyroid hormone-related protein in breast cancer $27,500
- Goodman Fielder Scholarship
- Y Antill, University of Melbourne
  - The use of ductal lavage in defining biomarkers of early breast cancer in high risk women: promoter methylation $27,500
- Career Development Award
- M Kershaw, Peter MacCallum Cancer Institute
  - To harness the immune system against cancer by inserting genes into t cells that will endow them with the ability to seek out and destroy cancer cells $50,000
- Kathleen Cunningham Research Grant
- B Chua, Peter MacCallum Cancer Institute
  - A phase III study of regional radiation therapy in early breast cancer $50,000
- Kathleen Cunningham Research Grant
- M Gillespie, St Vincents Institute of Medical Research
  - Role of osteoprotegerin in breast cancer growth in bone $83,000

### Fellowships and scholarships

**Senior research fellow program**

- M McGucken, Mater Medical Research Institute and P Webb
  - Queensland Institute of Medical Research $200,000

**Clinical research fellow**

- To be announced $36,050

**John McCaffrey Research Scholarship in Cancer Control North Queensland**

- M Nowak, James Cook University $50,000

### Total fellowships and scholarships

$256,950

### Epidemiology and behavioural research programs

- **Cancer Epidemiology Unit**
  - M Gillespie, St Vincents Institute of Medical Research $508,600
- **Behavoural Research Unit**
  - M Gillespie, St Vincents Institute of Medical Research $426,500
- **Queensland Cancer Risk Study**
  - M Gillespie, St Vincents Institute of Medical Research $543,300
- **Prostate Cancer Supportive Care & Patient Outcomes Trial**
  - M Gillespie, St Vincents Institute of Medical Research $320,000

Total epidemiology and behavioural research programs $1,798,400

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Cancer Forum – Volume 28 Number 1 – March 2004

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Research to reality: Translating the evidence.
COSA 30th Annual Scientific Meeting

After a 10-year gap, the Clinical Oncological Society of Australia Annual Scientific Meeting returned to the West, and it was back to the Hyatt once more. In planning the meeting I was conscious to avoid what seemed to me the raison d’être of COSA, namely to aim for more umbrella sessions to discuss the big issues for all of us in oncology.

Inevitably this meant that there would be fewer opportunities for break out sessions, but the ‘one group-one session’ idea was already becoming redundant in light of a multidisciplinary approach to care, as well as the real danger of sessions being poorly attended. We took the decision to create group sessions only where there was a demonstrated interest either by submission of abstracts or by specific request from group representatives.

This latter approach resulted in the inclusion of two new COSA group sessions: neuro-oncology and quality services. The former, organised and beautifully run by the indefatigable and tireless team of Fran Boon and Liz Heyve from Sydney, was well attended and feedback suggested they were important sessions for future inclusion on their own.

The other, regarding the delivery of quality services in cancer, run by Patsy Yates, Bruce Barracough, Tom Reeve and Paul Harnett, demonstrated that Australia has already gone a long way toward meeting the challenge of improved cancer services for the community.

Important initiatives such as the multicentre trials ethics workshop the day preceding the ASM were well attended and received, and indeed the inclusion of a symposium on ethical issues on the first day provided some insights into four very different areas, from getting research protocols through review to how to handle ethical questions in comprehending the challenge of being involved in a clinical trial. The personal journey of a cancer survivor always lends a keen reminder of what the issues really boil down to and Sharon Wheeler spoke eloquently about this.

Another important novel session was the inclusion of industry in a group breakout session. Our five guest speakers gave five very different presentations ranging from pipeline development, drug registration issues in Australia, why Australia is offered the trials it gets from industry head office, issues with multiple ethics applications and future investment strategies for oncology in Australia. We were indeed fortunate to have five excellent speakers who provided a seamless session that covered such a broad and hitherto not heard of perspective for a COSA audience. The emphasis on developing a dialogue between physicians and industry, other than via the marketing department, is one I hope will carry through to future COSA ASMs, and has the potential to open up an important forum that is mutually beneficial.

The final day of the COSA ASM 2003 began early with the launch of the National Service Improvement Framework for Cancer by Dr Rosemary Knight at a packed breakfast session. Given this was the morning after the COSA conference dinner this was a remarkable achievement, and was testament to the importance of this Commonwealth initiative (and in no way to Perth being the most boring capital city in Australia bereft of venues for people to party into the wee hours).

A brain metastases session led on to a superb presentation by Harvey Chochinov (Canada) who illustrated how it is possible to die with dignity for those many who still succumb despite advances in treatment. This highlights the very real need to recognise that there is as much to be done for those who have cancer now, as there in for researching ways to prevent and treat it in the future, and developed further our theme of carefully considering how we think about providing services for those with cancer and their families.

To finish I’d like to thank all those involved who made COSA ASM 2003 what it was. Although there are too many to mention individually, I’d like to especially thank Liz Kenny and all in COSA for their help with the organisation of this meeting, my local colleagues at the University of Western Australia and their sterling work in making everything run smoothly. Planning for the 2004 ASM is already well underway and I encourage all who enjoyed the 2003 ASM to continue to attend and support this national forum for excellence in clinical oncology.

Finally I’d like to publicly acknowledge David Joseph, my employer at radiation oncology at Sir Charles Gardiner Hospital, who unstintingly supported my role as convenor and indulged my absences and time spent putting this meeting together.

Nik Zeps
Convenor

Australian behavioural research in cancer

This is a regular feature in Cancer Forum describing behavioural applications in cancer prevention.

Australia has six behavioural research centres: the Centre for Behavioural Research in Cancer (CBRCC) of the Cancer Council Victoria, the Centre for Behavioural Research in Cancer Control (CBRCC) at Curtin University of Technology Perth, the Centre for Cancer Control Research (CCCC) of The Cancer Council South Australia, the Centre for Health Research and Psycho-oncology (CHRP) of The Cancer Council New South Wales, the Centre for Research in Cancer Control (CRC) of the Queensland Cancer Fund and the Cancer Prevention Research Centre (CPRCC) of the University of Queensland.

This report has been compiled by Narelle Mills, CHRP.

New results

n Centre for Health Research and Psycho-oncology (CHRP)
Pharmacies on the frontline

- New results on the impact of pharmacy practice on the type of medications that are prescribed.
- The role of pharmacists in improving the overall health and well-being of people with cancer.
- Pharmacies on the front line of cancer care.

Pharmacies on the front line of cancer care.

- The importance of pharmacists in providing support and information to people with cancer.
- The role of pharmacists in reducing the burden of cancer for patients and their families.

A reminder to non-responders. A response rate of 56.4% was achieved.

Funding from the University of Newcastle Early Career Researcher Grants supported this project.

n Centre for Behavioural Research in Cancer (CBRCC), VIC
How does active parental consent influence the findings of drug-use surveys in schools?

A study by Victoria White, David Hill and Yukoel Effendi, soon to be published in Evaluation Review, examines the impact of passive and active parental consent procedures on the type of adolescents participating in a school-based survey examining substance use. Schools recruited from a random sample of metropolitan schools were assigned to passive or active parental consent condition. Results showed that participation rates in active consent schools were lower than in passive consent schools for junior students (80% compared with 80%), but not senior students. While consent condition had limited impact on prevalence estimates among older students, younger students estimates of cannabis and ecstasy use were lower in active consent schools than in passive consent schools. Results showed that participation rates in active consent schools were lower than in passive consent schools (60% compared with 80%), but not senior students. While consent condition had limited impact on prevalence estimates among older students, younger students estimates of cannabis and ecstasy use were lower in active consent schools than in passive consent schools.
Reports

Further findings from the Cancer Control Quality of Life Study Patients who were married and lived in the city were more likely to reduce their cigarette consumption when controlling for education and occupation levels, illness course catalogued as crisis, chronic or terminal, ambulatory status and time to death. The observation that thoroughness differed according to those aged under 40, caring for patients with higher education levels, diagnosed with lung cancer; recruited from medical oncology; non-ambulatory and deathless than six months to live.

At week 12, the only variable identified as significant was those caregivers who had stopped work to care. Caregivers who used education materials were more likely to have a correct perception of the importance of the information. Caregivers had less than medical practitioners as an information source were significantly more likely to have an incorrect understanding of treatment goals.

Sun protective behaviours among SA adolescents: Results from the 2002 ASSAD survey

Since 1990, SA has been monitoring the sun protective behaviours of adolescents (aged 12-17 years) via self-reported data collected through the triennial Australian Secondary Students' Alcohol and Drugs (ASSAD) survey. Trend analysis suggests that adolescents are becoming more complacent about sun protection. Regular use of hats, sunscreen and cover-up clothing has decreased significantly over the past three to six years. In 2002, 24% of adolescents did not use any form of sun protection on a regular basis, and a further 30% relied only on one method (most often sunscreen). Consequently, rates of sunburn remained high (78% burn at least once in the previous summer).

Smoking among SA secondary school students: Results from the 2002 ASSAD survey

Smoking prevalence and smoking behaviour were investigated among 839 students in 71 schools which participated. Results released in December 2003 revealed that smoking rates in 2002 had virtually halved since 1984. Progress was seen in SA in all age groups except those under 10 years of age who had terminal lung cancer. These were the same advertisements as in the sixth wave. Random digit dialling telephone surveys were conducted within the Perth metropolitan area. In total, 379 current smokers over 18 years were recruited. Unprompted awareness of any ‘Make Smoking History’ advertising was 99% and prompted awareness was 90%. Of the total sample, 6% had quit, 20% had attempted to quit and 55% had attempted to cut down in the previous month. Overall, the advertisements were far more salient for women, and young women in particular. The campaign continues to achieve at levels similar to previous campaigns.

Cancer Prevention Research Centre (CPRC), QLD

The PLACE Project (Physical Activity and Localities in Community Environments) with colleagues at the National Centre for Social Research in Geographical Information Systems is moving on to phase two of data collection. Phase one of PLACE has been successfully managed through to completion by Eva Leslie and her team, and with assistance from those in Adelaide, now linked at the individual household level to data on environmental attributes in local communities. Preliminary analyses suggest that there are associations of walking behaviours with objectively assessed indices of ‘walkability’. The study, conducted by Melanie Wakefield, Tessa Letcher and Sarah Dürinck in collaboration with Caroline Miller from The Cancer Council South Australia, is designed to determine the extent to which further restrictions on retail tobacco displays might be associated with reduced perceptions of ease of purchase of cigarettes, normative aspects of tobacco use and support for tobacco control policies. The study, conducted by Melanie Wakefield, Tessa Letcher and Sarah Dürinck, was designed to determine the extent to which further restrictions on retail tobacco displays might be associated with reduced perceptions of ease of purchase of cigarettes, normative aspects of tobacco use and support for tobacco control policies.
CBIRC Presentation methods of the UV index

Research suggests that most Australians are aware of the ultraviolet index (UVI) but a majority fail to either recall or utilise it properly. A qualitative study funded by the Cancer Council Western Australia, CBIRC has embarked upon research to suggest the best presentation methods for increasing understanding of UV index (UVI) in the state of the List. The research will involve conducting six focus groups with 16 to 44 year old males and females to discuss the merits and drawbacks of current presentation methods followed by interview excerpts with 600 participants where various UVI presentation methods will be tested, and data gathered on current levels of public awareness, recall, understanding, attitude and utilisation of the index within WA.

Physical activity and cancer prevention project

There is increasing evidence of the benefits of physical activity in preventing cancer. CBIRC has been commissioned to investigate whether ‘new’ messages that promote physical activity for cancer prevention are more persuasive than ‘established’ messages about physical activity preventing cardiovascular disease.

CPRC

We are currently recruiting new staff to work on the NHMRC Capacity Building Grant and program grant projects. The program is focused on physical activity and population health and will include specific studies on understanding the implications of current physical activity recommendations for the prevention of obesity and cancer risk.

CRCC

Queensland Cancer Risk Study

Behavioural factors such as smoking, sun exposure, diet, alcohol consumption, physical activity and weight gain account for a large proportion of total cancer risk in the population. These behaviours, along with early detection and screening activity, have been, and will continue to be, the main targets for prevention and early detection programs. Evaluation of the effectiveness of these programs in Queensland and elsewhere is hampered by the inadequacy of population-based data on the prevalence of these behavioural factors. Cancer Surveys on behavioural factors have tended to focus on single measures of perceived needs, one for young persons with cancer, one for parents.

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CBIRC is delighted to announce that Helen Dixon has been awarded her PhD from the University of Melbourne. Her thesis entitled “Portrayal of tobacco use in popular films: an investigation of audience impact” was jointly funded by an NHMRC Public Health Postgraduate Scholarship and The Cancer Council Victoria. Helen’s project supervisors were Prof Ron Boford (VicHealth Centre for Tobacco Control) and Prof Susan Paxton (formerly Melbourne University, now La Trobe University). CBIRC has welcomed Dr Mohammad Salahuddin, Senior Scientist & VicHealth Research Fellow and Dr Georgina Sutherland, Behavioural Scientist. Mohammad’s main research focus is on understanding environmental-econometric determinants of health-related behaviour, while Georgina is currently working on a range of research and evaluation projects related to improving support and information for patients with cancer.

CBIRC staff have been awarded a number of NHMRC grants. Dr Susan Donaldson has been awarded an NHMRC New Investigator Grant for three years to conduct a randomised trial assessing a shade development intervention in secondary schools for adolescent skin cancer prevention. Dr Trish T Lifestyles is Principal Investigator of the project “Referral of men newly diagnosed with prostate cancer to a telephone-based support program”, which has been awarded a three-year NHMRC project grant. Prof Rob Sanon-Fisher (Newcastle University) and CBIRC’s Dr Victoria White have been awarded a four-year project grant for the project “Radio and students with low socioeconomic need of colorectal patients: a randomised control trial”.


CCCR and TCRE

Web-based modules – cancer incidence

In collaboration with the DHS Epidemiology Branch, CCCR has developed a web-based module, showing cancer incidence trends in SA by diagnostic period, socio-economic status, country of birth, and place of residence. Comparisons were drawn between SA incidence rates, those for Australia and other regions of the world. The availability of the module will be advertised widely to science teachers, students at a senior secondary school level, and the general public, including those enrolled in health sciences. Interested members of the public will have ready access. Graphical presentations are available for all cancer sites, such that they may be downloaded for use in school projects and for related purposes.

Keynote address

A CCCR staff member also presented a keynote address at the Cancer Risk Forum 2003, of the first five-year cancer registry report for the Malaysian state of Penang. Preventive and screening opportunities were highlighted, especially relating to cancers of the female breast, cervix, lung, colorectum, and liver.

CBIRC staff co-authored two papers submitted for publication in peer-reviewed journals. The first points to secular increases in recorded depth of cutaneous melanomas within thickness categories in Australia, which are associated with increased awareness, recall, understanding, attitude and utilisation of cancer detection, supportive care, and treatment outcomes, including quality of life. The Centre for Cancer Control in Cancer Control will work in concert with the others in the Cancer Control services section as part of an integrated approach to cancer control based on surveillance, research and evidence-based practice.
Are superficial basal cell carcinomas the most common cancer in the Australian community?

I have recently conducted a personal prospective audit of 349 consecutive consultations (in 244 patients) presenting to two primary care skin clinics in Perth, WA.

Particular attention was paid to the detection of superficial basal cell carcinomas, given that it is often stated that they are commonly overlooked in primary practice.

All skin malignancy was confirmed by histopathology and each lesion was counted once only in the audit (ie where an initial incisional biopsy was followed by a definitive excision). Only new (non-recurrent) malignancies presenting in the audit period were tallied.

The mean age of patients presenting for a skin cancer check was 51.4 years, with the peak age groups being 46-55 years (28 male, 32 female), and 50-65 years (32 male, 30 female). There were 113 males (46.3%) and 131 females (53.7%) in total.

Seventy-eight skin malignancies were diagnosed in 42 (17.2%) patients. The majority (58/78, 74.4%) were basal cell carcinomas (BCC). Of the BCC sub-types, superficial BCC were the most prevalent (32/58, 55.2%), then nodular (20/58, 34.5%), pigmented (2/58, 3.4%), morpheaform (2/58, 3.4%), mixed superficial/nodular (1/58, 1.7%), and predominantly infiltrative (1.7%).

The mean age of patients with superficial BCC was 58.5; for nodular BCC it was 59.4 years. McCormack et al1 conducted a retrospective analysis of 3885 BCC histopathology specimens and found corresponding figures of 56.8 years and 63.9 years respectively, a statistically significant difference (P<0.001).

Ten squamous cell carcinomas and six Bowenoid lesions were found in 11 patients, with a mean age of 66.8 years. Four melanomas (three superficial spreading, one nodular) were found in three patients, with a mean age of 62 years.

The distribution of nodular BCC was mainly on the head and neck areas (13/20, or 65% of all nodular BCC), contrasted to the predilection of superficial BCC for the trunk (21/32, or 65.6% of all superficial BCC) and limbs (9/32 or 28%). This compares with corresponding figures from McCormack: 65.2% of nodular BCC were on the head and neck, 50.5% of all superficial BCC were on the trunk, while 25.8% were on the limbs.

The differing distribution characteristics of superficial BCC and nodular BCC, as well as the younger age group affected with superficial BCC lead McCormack et al to hypothesise differing aetologies for superficial BCC and nodular BCC. They suggested that superficial BCC may be related more to intermittent sun exposure or sunburns (as for melanoma), whereas nodular BCC may be more closely related to cumulative, chronic UV irradiation.

The finding of a higher prevalence of superficial BCC than nodular BCC in the present study contradicts the prevailing notion that nodular BCC is the most common subtype1,2. McCormack et al found that only 14.8% of all BCCs tallied in their study were superficial BCC, with 63.8% being nodular BCC.

However, if superficial BCC are frequently overlooked in primary practice, or are treated by destructive means (e.g. cryotherapy, curettage and electrodessication) by dermatologists without generating a histopathology specimen, then they will be under-represented in histopathological data.

The significant skin pathology presenting to skin cancer clinics and the finding of a higher prevalence of the superficial BCC subtype is consistent with my personal findings over a longer two-year period.

The audit suggests that superficial BCCs are the most common type of skin cancer in the community. This implies that they are currently being under-diagnosed due to either lack of recognition (commonly being mistaken for a macule/patch of dermatitis, tinea, Bowens etc), or to the primary care physician not having the time required for performing periodic total cutaneous examinations on ‘at-risk’ patients.

J Giacomel
South Perth, WA

References
New anti-tanning campaign

The Cancer Councils have launched a new campaign in response to mounting evidence that many Australians think a tan looks attractive and healthy.

The first Australian television campaign highlighting the dangers of tanning, unveiled at the launch of National Skin Cancer Action Week in November 2003, shows the dangers of deliberate tanning.

The community service announcement shows a tattoo of a sun on a young woman’s midriff that becomes animated then travels across her skin, leaving behind a skin cancer which then transforms into a stitched surgical wound and then a large scar. A voiceover warns that tanning can lead to premature ageing, skin cancer and ugly scarring.

The Chair of The Cancer Council Australia’s Skin Cancer Committee, Mr Craig Sinclair, said the campaign is in response to alarming findings about tanning preferences and perceptions, particularly among young Australians.

“Recent research by the Cancer Councils indicates that around half of Australian women prefer a tan, 35% of New South Wales teenagers think people with a tan are more attractive, and a quarter of the Victorian population is trying to get a tan,” Mr Sinclair said.

Focus testing of the television campaign among Australians aged 14 to 35 showed this target audience found it powerful and thought provoking. The majority said they would be more likely to protect themselves from the sun after seeing the ad. The campaign, which also includes radio community service announcements and posters, has been seen in most Australian states this summer.

Australia’s Biggest Morning Tea

The Cancer Council Australia invites all Australians to gather with family, friends and workmates and have a cuppa for cancer research for Australia’s Biggest Morning Tea on Thursday 27 May 2004.

Hosts enjoying a morning tea anytime in May will be helping achieve the event’s fundraising target of $7.2 million. By registering your event with your local Cancer Council, you will receive a complimentary information kit packed with morning tea ideas.

The Cancer Council Australia’s Chief Executive Officer, Professor Alan Coates said, “While Australians enjoy a cuppa, they can be reassured that their small contribution will make a big difference to the almost 1 in 3 people diagnosed with cancer.”

BOOK REVIEWS

100 Questions and Answers about Prostate Cancer

P Ellisworth, J Heaney and C Gill

Published by Blackwell Publishing (2002)
RRP: A$29.65

100 Questions and Answers about Prostate Cancer was written by two urologists (Ellisworth and Heaney) and a man who has been treated for prostate cancer (Gill). The book is targeted to men diagnosed with prostate cancer and men who have concerns about prostate cancer. The principal aim of the book is to educate the reader about most aspects of prostate cancer, and from this, assist men to make informed decisions about both treatment and early detection.

In this regard, self help books for men with prostate cancer are becoming more common. Ongoing uncertainty about the ideal treatment approach and the benefits of early detection make this a topical book. Further, given that men with prostate cancer tend to be high seekers of health-related information there are no doubt some men who will find this book of interest.

The book has seven sections. The first three parts cover the anatomy and physiology of the prostate and the epidemiology of prostate cancer. Prostate cancer screening is then discussed. Parts four to six focus on prostate cancer staging and treatment from a biomedical viewpoint, and the final section discusses the psychosocial effects of prostate cancer.

This text is written at a level appropriate for readers with high literacy. In many parts, complex terminology is used that will not be accessible to many men, and will, for non-medical readers, require frequent cross-referencing to the glossary. The glossary is detailed and together with the index will assist readers with navigating the text. Men who prefer very detailed information (for example, the patients tables are reproduced to explain prediction of cancer stage), and who are already well read on the subject may find the book less daunting. An appendix lists a range of prostate cancer-related websites, service organisations and patient education literature available for men in North America.

From a psychosocial viewpoint, the emphasis on open communication with the medical team and informed decision making is sound, and the advice about coping is helpful and to the point. The information provided about healthcare entitlements, medical treatments and support services is specific to North America, and so not all will apply locally. In this regard, there are a number of resources currently available in Australia from state Cancer Councils, the Australian Prostate Cancer Collaboration and the Prostate Cancer Foundation of Australia, that can provide men with a firm knowledge base to which this book might add.

5 Steginga
Queensland Cancer Fund
Fortitude Valley, QLD

Published by Mooby (2003) Distributed in Australia by Elsevier
RRP: A$235.40

The 2003 Year Book of Oncology carries on the tradition of many previous years of publication, utilising an unchanged format and presentation style. A distinguished group of editors, under the leadership of Dr Patrick J Loeher Sr, select articles from the published oncology literature that they consider to represent significant research developments in cancer. The papers are summarised in abstract format, and expert commentary by an individual from the editorial committee evaluates the importance and contribution to clinical practice. Sections are devoted to all solid tumour sites, as well as haemopoietic malignancies, lymphoproliferative disorders, paediatric oncology, epidemiology, supportive care, and psychosocial and alternative therapies. Although the reviewed papers principally have a clinical focus, sections are included on cancer biology and cancer therapeutics. In addition, within the individual chapters for tumour sites, relevant papers on basic science are included.

The benefit from a book such as this is that it provides readers with the opportunity to update themselves (albeit superficially) in areas outside their major areas of interest and practice. It is difficult keeping up with the many cancer journals, and the 2003 Year Book of Oncology provides a degree of focus, as well as bringing to the attention of the reader papers from journals that one may not normally access (an example being a Danish register-based study on the association between depression and cancer risk, published in the American Journal of Epidemiology).

However, this book is subject to several criticisms. The title 2003 Year Book of Oncology is a misnomer. The reviewed papers are from the 2001 and 2002 literature, so they are already outdated by 12 months. The advent of the internet means that literature searches and reviews are current within weeks of publication of a paper, such that books like this lose some of their impact, particularly when the clinician is accessing the literature pertinent to their main area of practice. The choice of papers included in the “2003 Year Book” is obviously very subjective, dependent on the editorial committee’s interests. The standard of expert commentary is generally very good, but in some situations merely represents a rewriting
are up-to-date, thoughtful essays on important aspects of approaches to the immunotherapy of prostate cancer; and a

The last three articles concern immunological aspects of cancer

400 useful references.

detail. This article is supported by a comprehensive list of over

acquisition and activation of the Src oncogene, the subversion

pathogenicity to retroviruses by Jan Svoboda, Josef Geryk and

have been identified, the anti-proliferative activity of these

Although some potent small molecule inhibitors of telomerases

centrosomal abnormalities and carcinoma in situ is discussed

In spite of these criticisms, I enjoyed reading the 2003 Year

research. David Gisselsson describes briefly the history of genetic instability, the importance of fragile sites and tumour specific chromosomal abnormalities. The interesting association between centrosomal abnormalities and carcinoma in situ is discussed in some detail. Telomerase has long been mooted as a major potential target for the development of cancer therapeutics. Although some potent small molecule inhibitors of telomerases have been identified, the anti-proliferative activity of these compounds in cellular systems/extracts is much lower than expected. With the current interest in telomerase as a vaccine and anti-cancer therapeutic agent, this review by Zhi Chen and David Corey is a timely summary of the challenges for the field.

The major article in this volume is directed towards the pathogenicity of retinoviruses by Jan Svoboda, Josef Geryk and Daniel Elorri. This article contains a wealth of information on the biology of retinoviruses relevant to cancer - the acquisition and activation of the Src oncogene, the subversion of immunity and transmission of retroviruses are covered in detail. This article is supported by a comprehensive list of over 400 useful references.

The last three articles concern immunological aspects of cancer biology: EBV and nasopharyngeal carcinoma (both local and serological responses), cytokine, antibody and vaccine approaches to the immunotherapy of prostate cancer; and a final short chapter on the role of CD4+ T-lymphocytes in anti-tumour immunity. These are all useful, accessible articles for scientists and clinicians with an interest in these fields, but who are not experts in EBV or immunology.

The book has an excellent index, so specific topics are found quite easily. It would be remiss not to point out that the quality of figures presented is quite disappointing - the graphics text is actually out of focus. The binding of all the colour figures in the middle of an irrelevant article is quite confusing, especially when there is no indication on the figures to which they are associated. The presentation of figures is so poor that they will be of little or no use for those involved in teaching.

The price for a concise atlas such as this seems high, but I believe that it would serve as a useful reference book for anyone with an interest in sentinel node biopsy.

J Kollars
General Surgery, Breast, Endocrine and Surgical Oncology
Royal Adelaide Hospital Cancer Centre, SA

Biologic Therapy of Leukemia

M Kalaycio (ed)
Published by Humana Press (2003)
RPP: A$115.00

This is the fifth monograph in the series Contemporary Hematology and is edited by Matt Kalaycio from the Cleveland Clinic. The book contains five sections, each with one to five chapters, dealing with immunotherapy, cytokines, targeted therapeutics, differentiation agents, and gene therapy. Of the 23 involved authors, 19 are from North America, which is also reflected in the content.

The preface explains that these “new” approaches developed for the treatment of leukemias “…can collectively be classified as truly “biologic” therapies because they take advantage of the knowledge of biology of leukemias”. There is one of the major difficulties with this text. The specified subject matter is extremely broad and largely arbitrarily chosen, as it is arguable that there is far more understood about the “biology” of leukaemia cell DNA synthesis, repair mechanisms, nucleotide biochemistry and cell kinetics as they relate to the rational selection of chemotherapy agents (not covered), than the “biology” of interferon responsiveness (one chapter), or the “graft-versus-leukaemia” effect (one chapter).

Apart from the issue of content selection, there is also highly variable depth and quality of coverage of the selected topics. There is an interesting and succinct discussion of the use of leukaemia-derived dendritic cells (David Claxton) but no coverage of peptide immunisation strategies generally, despite their recent clinical promise. The historical overview of the “graft-versus-leukaemia” effect is well-written, but the chapter lacks a discussion of the current understanding of the cellular effectors mechanisms or an overview of the diseases where a clinically meaningful effect may be exploited therapeutically. The discussion of Myelokatog (Germizumb Azogamicin) is very useful, as much of the structural, biochemical and mechanistic data is not otherwise brought together elsewhere in the literature. Other useful chapters include the review of antisense strategies, and the clinical summary of ATRA development in APML. The chapters on interferons, interleukin-2, and multi-drug resistance were less valuable, with more complete and thorough reviews readily available in the recent published literature.

Another weakness of the text was the variability in the recency of literature cited, with just one chapter including (obviously at the proof stage!) citations from the 2002 American Society of Hematology meeting, and most chapters not incorporating data from many major publications after 2001.

Overall, while there were a few worthwhile portions, the book was not up-to-date in its content and incomplete in its coverage to be highly recommended. Most clinicians treating patients with leukaemia would be able find one or two chapters that provided them with a succinct and useful overview of an area they were not following closely in the current literature, but this would rarely justify individual purchase.

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The Breast: Comprehensive Management of Benign and Malignant Disorders

Vol 1 and 2

KI Bland and EM Copeland (eds)
Published by Saunders (2003)
Distributed in Australia by Elsievier
RPP: A$465.30

The Breast: Comprehensive Management of Benign and Malignant Disorders is an impressive two-volume textbook that makes one’s palms sweaty with the thrill of the quality and complexity of the contained information. That it has just been published in its third edition demonstrates both the successful forumula and esteem with which this book has been regarded since first being published in 1991. Bland and Copeland, with the assistance of the multidisciplinary team of associate editors, have again expertly edited this book into a well-balanced, meticulously referenced, but not overly repetitive, treatise. The authorship list represents a significant proportion of the leading names active in the research and management of breast disease in the US.

There has been substantial revision, updating and refocusing of the book to current issues in this latest edition. In many of the chapters a significant proportion of the references date from the year 2000 onwards. The general layout is the same as the last edition and includes historical perspectives, congenital and benign disease, proliferative and premalignant changes, molecular biology of breast cancer, imaging and biopsy techniques, treatment of early and advanced invasive disease, follow up care, psychological issues and medicolegal issues. There is an excellent section on “special presentations of breast cancer”.

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As you would predict from the authors, there remains an appropriate significant proportion of the book given to surgical issues. The section on mastectomy by skin-sparing techniques and reconstruction has been expanded and there is a new section on macromastia and reduction mammoplasty. On the other hand, the area of adjuvant systemic therapy remains concise but still covers most of the major issues in hormonal, cytotoxic and biological therapy of recent times. There are new sections on breast ductectomy and image-guided ablation of breast tumours.

The overall format is somewhat challenging. Despite its considerable size the book has a compact, small print design that is suited to its reference style rather than general readability. The Breast: Comprehensive Management of Benign and Malignant Disorders represents an extremely valuable contribution from some of the more technical terms used in the text.

This is an excellent collection of multiple-choice questions (MCQs), intended to act as a self-assessment companion to the recent (2003) textbook, Holland-Frei Cancer Medicine-6. The book includes over 750 questions, organised into six main sections: cardinal manifestations and informatics, scientific foundations, cancer diagnosis, therapeutic modalities, multidisciplinary management, cancer management, pediatric oncology, and complications.

Question numbering is in accordance with the companion volume and around five questions are included for each of the 162 chapters of the main text. Only nine chapters do not have accompanying MCQs. The vast majority of questions are of the type with a single correct response and, thankfully, questions address key issues, rather than minutiae.

Almost all answers include a useful paragraph of explanation/discussion. Unfortunately, however, the answers do not cite particular journal articles nor do they refer back to the relevant section of the main text. Also, the Review does not include the chapter listing for the main text, nor an index, making it a little difficult to locate questions addressing particular fields.

Nevertheless, the Review is an accurate, up-to-date resource for self-assessment, which is likely to be of considerable value to those in training and those wishing to maintain their knowledge. It will also be helpful for teaching and will aid in the development of examination questions. Importantly, the Review will be useful, regardless of whether or not the purchaser also has the accompanying textbook, Holland-Frei Cancer Medicine-6.

The Cancer Sourcebook is one of almost 100 sourcebooks in a large health reference series that is designed to provide basic consumer information about health care issues. Running to over 1000 pages, the current edition is divided into six parts.

Part one provides a comprehensive overview of facts and figures about cancer. Incidence and survival statistics are reported for the US population. Part two summarizes the known and putative causes of cancer and recommends a screening checklist for cancer prevention measures. Individual chapters evaluate established causes of cancer well (eg tobacco) and provide a balanced assessment of controversial causes (eg mobile phones). Part three provides good quality summaries of the anatomy, risk factors, symptoms and principles of treatment of many individual cancer sites. More complex cancers are often afforded individual descriptions. For example, the chapter on thyroid cancer distinguishes benign and malignant nodules, and briefly summarizes the different types of thyroid cancer. Part four describes treatments available for cancer and includes descriptions of standard medical treatments, developmental therapies (eg gene and vaccine therapies) and unproved treatments. Part five deals with day-to-day coping with cancer and treatments, and part six lists sources of information for further help and information.

A particular strength of the Cancer Sourcebook is its reference to websites and major cancer organisations. The book is also well-written for a lay audience. Sentences are clear, dot points are frequently used, jargon terms are avoided and yet the message is not over-simplified. Despite its size, however, the Cancer Sourcebook is not a complete description of all aspects of cancer and in some areas the book’s strong advocacy for better health lacks a firm basis in evidence. Some tips and screening checklists for protection against cancer are controversial. For example, for men over 50 an annual PSA is recommended while for men between 15 and 35, monthly testicular self-examination is reported to increase the chances of finding testicular cancer early.

The Sourcebook also would help by having a more standardised format of chapter structure for cancers arising at individual sites. One particular area of inconsistency is that some chapters include numerous questions for consumers to ask their healthcare practitioners – a particular strength of this book that complements the list of websites and contact details for further information – yet other chapters lack this detail. The book is also written with an US audience in mind and uses idioms characteristic of American culture.

Finally, the Cancer Sourcebook has no chapters devoted to cancer of the breast or gynaecological cancers, and needs to be combined with the Breast Cancer Sourcebook, the Cancer Sourcebook for Women, Prostate Cancer Sourcebook (see review in this issue), Leukemia Sourcebook and Pediatric Cancer Sourcebook in order to provide a comprehensive compendium of reference cancer sources. The Cancer Sourcebook provides a useful place on the shelves of libraries that serve the public and healthcare organisations that deal directly with the public.

G Beattie
Wesley Medical Centre
Brisbane, QLD

Clinical Relevant Resistance in Cancer Chemotherapy
B Andersson and D Murray (eds)
RPP: US$160.00

This is a reference book for the sub-specialist in oncology with a particular interest in the pharmacologic and molecular mechanisms that underpin drug resistance. The introduction of an increasingly large and diverse repertoire of chemotherapeutic agents has seen quite impressive remission rates in many malignancies, but long-term failure in the more common cancer types. The editors point out that the phenomenon of ‘drug resistance’, often viewed as the rapid occurrence of resistance at the single cell level, is in fact due to a multitude of individual factors. The aim of the book, which forms part of the Cancer treatment and research series, edited by ST Rosen, is to present an integrated review of these multiple mechanisms.

The book is divided into 17 chapters, separately authored, so that at times there is some predictable but acceptable overlap (particularly in chapters that address cyclophosphamide resistance). The authors are one of the MD Anderson Cancer Center (Texas, USA), and the Cross Cancer Institute (Alberta, Canada), reflecting the host institutions of the two editors. In the main, most chapters are divided into sections that comprise a relatively brief introduction, a detailed overview of molecular mechanisms, followed by information on their clinical relevance.

Only the first chapter, by Davis and Tannock, addresses intrinsic causes of resistance such as drug permeability and repopulation kinetics. Most of the remaining chapters focus on specific pathways or molecular mechanisms of resistance. These include nucleoside membrane transporters, MDR and MRP gene families, the glutathione pathway in alkylator resistance, the JNK and MAPK pathways, and repair of interstrand DNA crosslinks. There are a number of chapters detailing alkylator resistance, as well as cisplatin resistance. Two chapters are devoted to mechanisms of resistance in myeloid leukaemia.

The final chapter introduces the newer area of genomic studies and drug resistance, and provides a nice overview on information that can be obtained by gene expression profiling, and its use in assessing anticancer drug resistance and sensitivity. Due to rapid progress in the field, recent...
The opening section ends with the excellent and insightful commentary of most people who would read such a book might have got it for themselves. The second edition of the book as a whole is a very poor layout of chapters often leading to repetition of information presented. The author has clearly attempted to make the book more accessible for the informed reader. Unfortunately this compilation is spoiled by the inclusion of excessive amounts of data that are not always relevant to the topic being discussed. The Exogenous Factors in Colonic Carcinogenesis section, which is the largest part of the book, is of particular interest. The section on exogenous factors is comprehensive and includes a discussion of the role of diet, specifically red meat, in the development of colorectal cancer. The book also includes a section on genetic factors, which discusses the role of inherited and environmental risk factors in the development of colorectal cancer.

The section on gene-environment interactions is particularly interesting. It discusses the role of genetic factors in the development of colorectal cancer and how these factors interact with environmental factors to increase the risk of developing the disease. The book also includes a section on diagnostic strategies for the early detection of colorectal cancer, which is particularly relevant given the increasing availability of new diagnostic techniques. The section on treatment strategies is also well written and provides an up-to-date overview of the available treatments for colorectal cancer.

Overall, this is a very well-written and comprehensive book that covers all aspects of colorectal cancer from prevention to treatment and diagnosis. It is an excellent resource for anyone interested in colorectal cancer and is highly recommended for practitioners, researchers, and students in the field.

The section on epidemiology and risk assessment is also of particular interest. It discusses the role of environmental factors in the development of colorectal cancer and how these factors interact with genetic factors to increase the risk of developing the disease. The book also includes a section on the role of diet, specifically red meat, in the development of colorectal cancer.

The section on genetic factors is also well written and provides an up-to-date overview of the available genetic tests for colorectal cancer.

Overall, this is a very well-written and comprehensive book that covers all aspects of colorectal cancer from prevention to treatment and diagnosis. It is an excellent resource for anyone interested in colorectal cancer and is highly recommended for practitioners, researchers, and students in the field.
when it should have started with it. The book, at two page long and non-referenced, should not have been included in the chapter and seemingly omits one commentary on oncology. It is too a very poor editorial job that detracts considerably from what otherwise could be a very useful précis of this area. Perhaps the editors felt they needed to give everyone who attended the conference their views. It may have been better to summarise these brief commentaries in one chapter, to have given them more space to develop original ideas with appropriate referencing, or to have cut them completely.

In summary there is much of interest in this book and there was plenty I could take away from some of the excellent brief reviews. Despite the criticisms on editing, I would recommend this book to anyone wishing to gain a rapid insight from recognised experts into the discourse on risk factors for colon cancer. N Zeps

WA Research Tissue Network
Nealdins, WA

Expression profiling of human tumors: Diagnostic and application
M Ladanyi and WL Gerald (eds)
Published by Humana Press (2003)
RPP: $157.00

In the field of cancer research, few recent methodologies have sparked more excitement, or indeed more capital expenditure, than the use of gene arrays to analyze gene expression in neoplastic and tissue cells. This is perhaps not surprising, for this approach lies at the intersection of three of the greatest technological advances of the late 20th century, namely molecular biology, robotics and bioinformatics. The fact that gene expression analysis emerged at a time when the hyperbole surrounding the human genome project was at its peak, also served to propel this nascent technology into its peak, also served to propel this nascent technology into its

An excellent glossary provides explanations for the medical terms.

The authors use language that is easily understood, avoiding medical jargon but using the technical words which any patient will come across when dealing with the health system.

Throughout the book are quotations from several survivors, at various stages of their journey. These remarkable women speak with pathos, honesty, despair and humour about their situation, and their quotes are collectively a pleasure to read.

A number of contributors have added sections dealing with their own areas of expertise. The section on adolescent women is aimed more at health service providers than survivors, and it tends to highlight the lack of sensitivity and support offered to patients and their partners. The section on complementary therapies is very informative, and goes far beyond the usual relaxation and yoga routine. For those practitioners who are honestly interested, it is bibliographically attached to the mainstream medical model. I suggest that this chapter would make interesting reading, if not for their own edification, at the very least to see what their patients are up to!

The chapter on culture presents a minor difficulty. Throughout the book, the message is that each woman’s response is individual, but nonetheless valid. In this section, the “culture” referred to is North African and Middle Eastern. The impression is wrongly given that women from these cultures have a particular and uniform response that is culturally determined. It seems to me that what the contributor is suggesting has more to do with socioeconomic status than with culture. Beyond that, how does one define patients from Latin America, or the sub-continent, or South-East Asia? If any health professionals are looking to this guide for help in dealing with women from other culture, and have no other resources, I fear that they are likely to offend some of their patients.

This book should find a place in every gynaecological oncology unit, in every women’s health centre, and in every public library. It is a book that anyone who has been touched by gynaecological cancer will find not only informative and challenging, but also uplifting.

E Koussidis
Parkside, SA

Head and Neck Cancer
B Breckstein and G Masters (eds)
RPP: US$150.00

This book is part of the Cancer treatment and research series edited by Steven Rosen of Northwestern University Medical School, Chicago, USA. Approximately 40 titles in this series have been published over the past decade covering a range of topics and speciality areas related to cancer therapy and research.

The volume reviewed, Head and Neck Cancer, was edited by Bruce Breckstein and Gregory Masters from Northwestern Health Care and the Robert Lurie Cancer Centre of Northwestern University Chicago. The book has 370 pages and contains 15 chapters covering a range of topics including epidemiology staging and screening, oral pre-neoplasia and chemoprevention, the treatment of early and advanced stage head and neck cancer, metastatic and local recurrence, and radiotherapy and re-irradiation, organ preservation, the management of unresectable disease, and new and novel therapies and quality of life. There are 29 contributing authors, including the editors, and a small number of the contributors are recognisable as having a high profile in the head and neck oncology community.

Overall the quality of the information presented in this relatively small book is high. It is important to point out however that the book does not attempt to be a comprehensive textbook on head and neck cancer. Rather its aim is to provide and “update” current treatment practices and research directions that are likely to be of interest to clinicians already working in the field of head and neck oncology or perhaps other general oncologists wishing to keep abreast of a specialty area with which they have no direct experience.

Despite the fact that multiple authors have contributed, the editors have done their job well since the writing, in general, is tight and the layout is compact. There is a relative paucity of illustrations and their quality is variable but this does not pose a significant problem. The strength of the book really lies in the breadth of coverage and the extent to which the literature, most of it relatively recent, has been reviewed. Some chapters have over 200 references requiring a high level of effort on the part of contributing authors.

As a practising head and neck surgeon, this reviewer was critical of the depth of coverage of some clinical aspects of head and neck oncology but one must draw the conclusion that it was never the aim of the book to cover all areas comprehensively.

Of particular interest and benefit to this reviewer were chapters dealing with a pre-neoplasia and chemoprevention (chapter three), modified fractionation in radiotherapy (chapter seven), organ preservation with concomitant chemoradiation (chapter nine), and the management of metastatic disease with chemotherapy and novel agents (chapter 12). Importantly there is a very large amount of outcome data, all of which is well referenced. Knowledge that head and neck oncologists are introduced and covered succinctly and in a fashion that will not cause the no academic reader to glaze over and go searching for the sports section of the newspaper.

This book is not necessarily for the residents or registrars in specialty training however clinicians doing a specific fellowship in head and neck oncology will find it very useful, along with those already established in mainstream cancer practice.

C D’Brien
Sydney Cancer Centre
Sydney Head and Neck Cancer Institute
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Camperdown, NSW

Cancer Forum — Volume 28 Number 1 — March 2004

Cancer Forum — Volume 28 Number 1 — March 2004
The second edition of this textbook is designed to repeat the acclaim accorded the first edition. The work is comprehensive in its display of the investigation and management of head and neck cancer and delivers some appraisal of basic science and molecular biology as they start to impact in the therapeutic arena. Recognition that the best management of head and neck cancer patients depends on a multidisciplinary approach is encapsulated in the title and is honoured by the disciplinary diversity of the editorship and authorship of the various chapter topics.

The text is clearly written and displayed, and the illustrations (tables, line drawings, radiographs, clinical and pathological photographs) are excellent in their clarity and relevance. The treatment algorithms are helpful in displaying the decision sequences and the range of treatment possibilities – providing a summary after detailed reading or an instant reminder when quick review of a subject is required. The algorithms also instantly display some of the multidisciplinary integration.

The separated discussion and referencing on "radiological imaging concerns" and "radiotherapeutic techniques" within many cervical cancer chapters is a helpful advance from the first edition.

The editors have enlisted authors from many centres of high repute to ensure a broad view but it is virtually totally North American in its authorship, its referencing and its general therapeutic approach. This slightly restricts the comprehensive view of some of the therapeutic approaches and will only minimally construct its market.

This is an authoritative, comprehensive, well-presented textbook which will be a very valuable resource for any clinician involved in the management of head and neck cancer.

DE Theile
Clinical Professor of Surgery
Brisbane, QLD

Hematology/oncology secrets: Questions and answers reveal the secrets to diagnosis and management (3rd edition)

ME Wood and GK Philips
Published by Hanley & Belfus (2003)
Distributed in Australia by Elsevier
RRP: A$77.00

The main goal of this text is to provide an overview of subjects and important references for medical students and residents studying for exams. Drs Wood and Philips have brought together an amazing 115 contributing authors to produce this text. This edition is the third of its kind and is divided into eight parts including general concepts of cancer (eight chapters) along with sections covering general haematology (16 chapters), malignant haematology (11 chapters), solid tumours (21 chapters), paediatric oncology (four chapters) and HIV-related diseases (three chapters). A further section is dedicated to cancer genetics (seven chapters) and finally the most comprehensive section deals with the general care of the cancer patient (24 chapters).

I must confess I only read the sections/chapters of interest to me. The section on breast cancer was concise and the discussion informative regarding the issues surrounding the treatment of early breast cancer. However, I was disappointed in the discussion of psychosocial aspects of cancer care as I found it somewhat superficial, and while the chapter on fatigue was detailed, it lacked current data on the benefits of exercise. In an effort to gain a more complete perspective I offered the text to a number of clinical nurses working in day oncology who found it informative and very useful as a quick reference.

Overall the text is readable and set out in a question and answer format which I personally favoured. It is informal in its approach and I was particularly impressed with how succinctly and practically some of the information is conveyed throughout the text. The book contains a number of colour plates depicting peripheral blood films of anaemia, leukaemia and lymphoma but few other illustrations. Clinical studies are mentioned throughout the text but disappointingly no direct references are given despite a bibliography appearing at the end of each chapter.

In summary, this book was designed for medical students and resident medical officers. I suspect it will be read, not only by its target audience, but by other healthcare professionals, as it is a very practical text and a suitable companion for health professionals working in the haematology and oncology environment.

M Hargraves
Haematology Oncology Clinics of Australasia
Wesley-Hospital
Brisbane, QLD

Herb-drug Interactions in Oncology

BR Cassileth and CD Lucarelli
Published by BC Decker (2003)
RRP: A$102.30 (includes CD-ROM copy)

This ultimately useful handbook is immediately striking in two respects. Firstly the misleading title. Anyone seeking specific data on herb-drug interactions will find small reward for their time. Secondly, in a refreshingly altruistic gesture, the entire text is freely available in its most up-to-date form at the Memorial Sloan-Kettering Cancer Centre (MSKCC) website. This AS-sized text, complete with a CD-ROM mini disk copy on the inside cover, is a compilation of 131 monograph style summaries of commonly used and alternative medicines (CAM). Many of the CAM have not all anti-cancer claims listed but presumably might be, or have been, utilised by cancer patients for other reasons. The majority of the book concerns herbal preparations but hydrazine, straight vitamins, and other pure substances are included, as are some non-substance therapies and monographs describing complex programs such as Dr Di Bella multi-therapy, Hoxsey herbal therapy, and the Gerson method. The listings deal with these therapies very much as patients may obtain them or through discussions focused around individual components. Readers wanting discussions on broad classes such as anti-oxidants, flavonoids or trace elements should look elsewhere.

The authors have taken an open but objective view in collating their information. They have structured the available information, which in some cases isn’t much, into an easy to use, concise and referenced resource. Each monograph includes a clinical summary, details about constituents, adverse effects, interactions, as well as potential and purported benefits and problems.

This is the product of the MSKCC integrative medicine service – a service established to research and incorporate complementary therapies into mainstream oncology practice. The work is unique in its breadth and its attempt to present only objective information. It also brings together references that would be difficult, if not impossible, to identify and obtain in any sort of timely manner.

How might this text be used? In my estimation this information will prove most useful when a health worker in confronted with the management of a patient who wishes to continue or start CAM. Even though the available objective information for many of these is scant, this book is useful because it delivers a creditable summary that any practitioners can use to quickly orientate their opinions. It represents a useful balance to the folklore and the promotional material of uncertain veracity that might arrive with a patient. This is not a text for those with a basic science interest in better-known substances, for example, glutamine and malatonin. Far more richly detailed reviews can be found elsewhere.

The authors have done a commendable job and are giving the information away, in its updated form, on the internet. As for herb-drug interactions in oncology, I didn’t see a great many listed but believe this to reflect a lack of data rather than an omission by the authors.

M Cain
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Cancer Clinical Service Unit
Sir Charles Gardiner Hospital
Nedlands, WA

Hormones, Genes and Cancer

BE Henderson, B Ponder and RK Ross (eds)
Published by Oxford University Press (2003)
RRP: A$215.00

This monograph gives an authoritative and up-to-date account of the complex roles played by hormones and genes in the development of cancer. The epidemiology and biology of breast and prostate cancer is comprehensively reviewed, with a particular focus on the role of steroid hormones, their cognate receptors and their metabolism. Other hormone-related neoplasia such as endometrial, ovarian and testicular cancers are expertly reviewed and copiously referenced. The application of haplotyping analysis, genomics and proteomics in genetic epidemiology and cancer biology is well summarised and will no doubt be expanded in future editions.

Polymorphisms in genes involved in hormone signalling pathways are discussed in some depth. A particularly useful aspect of this discussion is the critical appraisal of methods of statistical analysis that may account for differences in epidemiologic evidence. The contribution of growth factors and cytokines to cancer and cross talk between steroid hormones and other cellular signalling pathways merit greater attention than given in this volume.

This book should be a valuable source of information and ideas for cancer epidemiologists, basic scientists and clinical researchers in this exciting and expanding field of medical research.

C Choong
Dame Roma Mitchell Cancer Research Laboratories
Hanson Institute/University of Adelaide
Adelaide, SA

Malignant Liver Tumours: Basic concepts and clinical management

FB Berit (eds)
Published by Kluver Academic Publishers (2002)
RRP: US$56.00

Malignant Liver Tumours: Basic concepts and clinical management is a book based on a Falk workshop held in Leipzig, Germany in January 2002. The book has sections on molecular oncogenesis of malignant liver tumours, induction of hepato-cellular carcinoma, clinical management of hepato-cellular carcinoma, experimental approaches to new...
The review chapters on molecular carcinogenesis and induction of hepatic carcinogenesis, I thought, were very well detailed analysis of risk factors and the description of infection syndromes among hematological malignancies. It is a valuable addition to the library of centres treating haematological malignancies. It would be a useful addition to the books available to cancer patients and a thoughtful summation of chemoprevention and its usefulness in breast disease. A chapter on epithelial sampling, including ductal lavage, random FNA and random core biopsies, is included. The next section of the book is on chemoprevention and an excellent introduction by Craig Jordon is followed by chapters on Tamoxifen, other SERMs aromatase inhibitors and a thoughtful summation of chemoprevention and its relationship to the quality of life at high risk of breast cancer. The final section on prevention includes a well-balanced discussion on prophylactic mastectomy and oophorectomy and breast reconstruction. I would consider this book to be a must for any member of the multidisciplinary team managing patients with breast cancer. It provides detailed information and appropriate statistics, and is exceedingly well-referenced. It will certainly require a second edition within the next five years as the information is up-to-date that events will overtake: 

J.P. Collins
Specialist breast and general surgeon
East Melbourne, VIC

Non-Hodgkin’s Lymphomas
PM Mauch and al (eds)
Published by Lippincott, Williams and Wilkins (2003)
844 pages plus index
RRP: A$415.80

This handsome volume would be a valuable addition to the bookshelf of anyone involved in the management of patients with non-Hodgkin’s lymphomas. The scope of the book is very wide and at 866 pages long, it is able to provide a quite comprehensive treatment of most of the clinically important areas in lymphoma biology, aetiology, diagnosis, assessment and treatment. The editors, Peter Mauch, James Armitage, Bertrand Cockeril, Ricardo Dalla Favera and Nancy Lee Harris, are world famous experts in lymphoma and the list of more than 100 contributing authors includes many of the leading names in the field from all parts of the world. The book is beautifully produced and has 80 colour plates, including clinical photographs, imaging studies and photomicrographs. The opening chapters provide a historical perspective on the evolution of our understanding of lymphomas and of the early development and subsequent refinements of chemotherapy and radiotherapy. The second section of the book contains chapters on diagnosis, staging and initial evaluation. The chapter by Nancy Lee Harris on REAL and WHO lymphoma classifications is particularly valuable. The description of procedures for primary diagnosis and appropriate handling of specimens is practical and detailed and the imaging sections contain useful information on structural and functional imaging, including the role of PET scanning. In the brief third section of the book there are chapters on the principles of modern chemotherapy, radiotherapy and biological therapy. The core of the book is the extensive fourth section that covers, in detail the pathology, evaluation and treatment of individual clinical entities. These disease entities are described in 19 chapters, each devoted to a single disease or related group of diseases such as diffuse large cell lymphoma or the follicular lymphomas. This is the section of the book most useful to clinicians and it provides information in a readily accessible form that is highly accessible. In the fifth short section of the book, there is a useful discussion of late effects of treatment and quality of life in lymphoma patients. The sixth section comprises eight chapters on a range of special topics, including management of lymphoma in children, management of the elderly patient with lymphoma and treatment during pregnancy. The final section contains seven detailed chapters on lymphoma biology, including development and functional biology of B and T lymphocytes, the role of infectious agents and molecular genetics. This is probably the most comprehensive, authoritative and useful book currently available on the topic of non-Hodgkin’s lymphomas and I cannot recommend it too highly.

M Mac Manus
Peter MacCallum Cancer Centre
East Melbourne, VIC

Palliative Care Perspectives
J. Hallenbeck
Published by Oxford University Press (2003)
225 pages plus index
RRP: A$49.95

Palliative Care Perspectives is a book designed to be an introduction to the core areas of palliative care for those relatively new to this topic. It is not a textbook nor is it intending to be. Instead it is a sharing of the author’s experiences and his offering of advice to a wider audience of those not familiar with different problems. Published data and current evidence are used throughout the book to support the author’s views however this does not seem to interfere with the very conversational style of the text. The book has many personal stories and anecdotes that show the human side to the work of palliative care and also help the author illustrate the effect of interventions. I found the style of writing easy to read, and it was at times almost like having a discussion about palliative care with a colleague. The author has set out to cover many areas of palliative care to help the reader develop a broad understanding of what palliative care is. The chapters of the book include those expected, such as pain management, symptom control, symptom management and areas of psycho-social and spiritual care. Some specific information is given in relation to pain and symptom management however the book was not intended to be a clinical manual and is more about the principles of management. It also has a good chapter on communication as well as interesting ones on the palliative care consult and the last 48 hours. The chapter on communication has many suggestions as to how various topics can be addressed with patients and families as well as specific ways to phrase those difficult questions, much of which I found useful. Scattered
Palliative Care Perspectives is a good introduction to palliative care. As the author states, it is not a textbook, but for health professionals to help provide basic information given to cancer patients and maintain the consistency of information. There would however need to be supplementation of education material in order that patients are fully informed on how to remedy the side effects from the cancer related drugs. I would not recommend it as first reading material for serious students of biological therapy. And the mombas, ximabs and zumabs? They’re mouse, chimeric and humanised monoclonal antibodies respectively. Aren’t you glad you read down here?

Overall, though, there is little to fault and much to be learned. I will keep this one nearby on my desk and I recommend it for serious students of biological therapy. And the mombas, ximabs and zumabs? They’re mouse, chimeric and humanised monoclonal antibodies respectively. Aren’t you glad you read down here?

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once again for the American audience.

Overall the book provides comprehensive information about the prostate and all other related conditions including sections on health and emotions after cancer, as well as current studies and clinical trials.

R Metcalfe
The Cancer Council Victoria
Carlton South, VIC

Textbook of Melanoma

JF Thompson et al
Published by Martin Dunitz Ltd (2004)
RRP: A$68.00

This is a substantial publication. Measuring 282 x 222 x 40mm and weighing over 2.8kg it is nearly double the size of previous monographs on the subject. For that you get a clearly set text, high paper quality and an abundance of consistently formatted coloured illustrations and tables. More importantly, the quality of the content lives up to the scale of its presentation.

The international panel of contributing authors is well balanced by geography and discipline. It includes 33 Australians (17 with links to the Sydney Melanoma Unit), 31 from Europe, 23 from the US and representatives from UK, Canada, Brazil and New Zealand.

The 64 chapters are arranged in 14 sections covering history; biology; epidemiology; pathology; staging; diagnosis; surgical management of the primary and of regional nodes; childhood melanoma; local and loco-regional recurrence; surgery for advanced disease. It is unfortunate that the results of several randomised clinical trials, which failed to show additional benefit of bio-chemotherapy, were not available at press time. Immunotherapy has long held tantalising promise, but the relevant chapters chronicle the extent to which that promise remains elusive. Clearly, new agents will be required if systemic therapy is to make a meaningful contribution to the control of melanoma, and the chapter by Michael Millward describes the unrelenting but largely unsuccessful search for such agents.

Overall this is a thorough and valuable text, but in no sense can it be described as light reading.

A Coates
The Cancer Council Australia
Campdenrow, NSW

4-5 Research to Reality: The 6th National Breast Care Nurses Conference
Brisbane
QLD
6th National Breast Care Nurses Conference Conference Manager
6th National Breast Care Nurses Conference Conference Services
PO Box 164
Fortitude Valley QLD 4006
Tel: +61 7 3854 1611
Fax: +61 7 3854 1507
Email: breast2004@ozemail.com.au

April

14-17 Trans-Tasman Radiation Oncology Group (TTRoG) Annual Scientific Meeting
Queenstown
NZ
Pharma Events
Ph: +61 2 9280 0577
Fax: +61 2 9280 0533
Email: conferences@pharmaevents.com.au

26-30 18th World Conference on Health Promotion and Health Education
Melbourne
VIC
Conference Manager
15 Pelham Street
Carlton VIC 3053
Tel: +61 3 9667 1313
Fax: +61 3 9667 1375
Email: enquiries@Health2004.com.au

May

18-21 Australasian College of Dermatologists Annual Scientific Meeting
Brisbane
QLD
Australasian College of Dermatologists
136 Pittwater Road
Gledswood NSW 2111
Ph: +61 2 9816 1174
Fax: +61 2 9816 1174
Web: www.acd.org.au

June

14-16 Royal College of Nursing Australia National Conference
Alice Springs
NT
RCNA Conference – Conference Solutions
PO Box 238
Deakin West ACT 2600
Tel: +61 2 6285 3000
Fax: +61 2 6285 3001
Email: rcna@con-sol.com
Web: www.rcna.org.au

July

4-7 Medical Oncology Group Australia Faculty Radiation Oncology
Cairns
QLD
Pharma Events
Ph: +61 2 9280 0577
Fax: +61 2 9280 0533
Email: conferences@pharmaevents.com.au

August

8-12 International Society for Nurses in Cancer Care 13th International Conference on Cancer Nursing
Sydney
NSW
MP Events
Tel: +61 3 9418 3930
Email: kirsten@mpevents.com.au
Web: www.isinc.org

8-14 Australia & Asia Pacific Clinical Oncology Research Development (ACORD) Workshop
Palm Cove
QLD
Medical Oncology Group of Australia
Level 6, 52 Phillip Street,
Sydney NSW 2000
Tel: +61 2 8247 6207
Email: fمزراپ@bigpond.com or mgostrac@edu.au

April

14-17 Trans-Tasman Radiation Oncology Group (TTRoG) Annual Scientific Meeting
Queenstown
NZ
Pharma Events
Ph: +61 2 9280 0577
Fax: +61 2 9280 0533
Email: conferences@pharmaevents.com.au

26-30 18th World Conference on Health Promotion and Health Education
Melbourne
VIC
Conference Manager
15 Pelham Street
Carlton VIC 3053
Tel: +61 3 9667 1313
Fax: +61 3 9667 1375
Email: enquiries@Health2004.com.au

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Fax: +61 3 9667 1375
Email: enquiries@Health2004.com.au

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Web: www.rcna.org.au

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Medical Oncology Group of Australia
Level 6, 52 Phillip Street,
Sydney NSW 2000
Tel: +61 2 8247 6207
Email: fمزراپ@bigpond.com or mgostrac@edu.au
<table>
<thead>
<tr>
<th>Date</th>
<th>Name of Meeting</th>
<th>Place</th>
<th>Secretariat</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-24</td>
<td>Royal Australian and New Zealand College of Radiologists, Faculty of Radiation Oncology Annual Scientific Meeting</td>
<td>Perth WA</td>
<td>Event Edge Tel: +61 8 9387 1488 Fax: +61 8 9387 1499 Email: <a href="mailto:info@eventedge.com.au">info@eventedge.com.au</a> Web: <a href="http://www.ranzcr.edu.au">www.ranzcr.edu.au</a></td>
</tr>
<tr>
<td>November</td>
<td>8-9 27th Annual Oncology Nurses Group Conference</td>
<td>Brisbane QLD</td>
<td>Oncology Nurses Group Conference Secretary Queensland Cancer Fund PO Box 201 Spring Hill QLD 4004 Tel: +61 7 3258 2263 Fax: +61 7 3257 1306 Email: <a href="mailto:ADIVersity@qldcancer.com.au">ADIVersity@qldcancer.com.au</a> Web: <a href="http://www.qldcancer.com.au">www.qldcancer.com.au</a></td>
</tr>
<tr>
<td></td>
<td>21-26 Australian Health and Medical Research Congress</td>
<td>Sydney NSW</td>
<td>ASN Events Secretariat Tel: +61 3 5983 2400 Email: <a href="mailto:congress@asnevents.net.au">congress@asnevents.net.au</a> Web: <a href="http://www.asncongress.org.au">www.asncongress.org.au</a></td>
</tr>
<tr>
<td>24-26</td>
<td>31st COSA Annual Scientific Meeting</td>
<td>Canberra ACT</td>
<td>31st COSA Annual Scientific Meeting Pharma Events Ph: +61 2 9286 0577 Fax: +61 2 9280 0533 Email: cosapharmaevents.com.au Web: <a href="http://www.cosa.org.au">www.cosa.org.au</a></td>
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<tr>
<td>6-9</td>
<td>Royal Australian and New Zealand College of Radiologists, Faculty of Radiation Oncology Annual Scientific Meeting</td>
<td>Sydney NSW</td>
<td>RANZCR Level 9, 51 Drury Street Sydney NSW 2000 Tel: +61 2 9268 9777 Fax: +61 2 9268 9799 Email: <a href="mailto:ranzcr@ranzcr.edu.au">ranzcr@ranzcr.edu.au</a> Web: <a href="http://www.ranzcr.edu.au">www.ranzcr.edu.au</a></td>
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<td>November</td>
<td>8-9 27th Annual Oncology Nurses Group Conference</td>
<td>Brisbane QLD</td>
<td>Oncology Nurses Group Conference Secretary Queensland Cancer Fund PO Box 201 Spring Hill QLD 4004 Tel: +61 7 3258 2263 Fax: +61 7 3257 1306 Email: <a href="mailto:ADIVersity@qldcancer.com.au">ADIVersity@qldcancer.com.au</a> Web: <a href="http://www.qldcancer.com.au">www.qldcancer.com.au</a></td>
</tr>
<tr>
<td></td>
<td>21-26 Australian Health and Medical Research Congress</td>
<td>Sydney NSW</td>
<td>ASN Events Secretariat Tel: +61 3 5983 2400 Email: <a href="mailto:congress@asnevents.net.au">congress@asnevents.net.au</a> Web: <a href="http://www.asncongress.org.au">www.asncongress.org.au</a></td>
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<td>Canberra ACT</td>
<td>31st COSA Annual Scientific Meeting Pharma Events Ph: +61 2 9286 0577 Fax: +61 2 9280 0533 Email: cosapharmaevents.com.au Web: <a href="http://www.cosa.org.au">www.cosa.org.au</a></td>
</tr>
<tr>
<td>28-29 May</td>
<td>Oncology Nursing Society (ONS) 29th Annual Congress</td>
<td>Anaheim California USA</td>
<td>ONS, Meeting Services Team Pittsburgh, Pennsylvania, USA Fax: +1 412 921 6565 Email: <a href="mailto:meetings@ons.org">meetings@ons.org</a> Website: <a href="http://www.ons.org">www.ons.org</a></td>
</tr>
<tr>
<td>31 Mar-3 Apr</td>
<td>12th Congress of the European Society of Surgical Oncology</td>
<td>Budapest Hungary</td>
<td>ESSO 2004 Secretariat Federation of European Cancer Societies Avenue E Mounier 83 Brussels, Belgium 1200 Tel: +32 0 2775 0201 Email: <a href="mailto:esso4@fecs.be">esso4@fecs.be</a> Web: <a href="http://www.fecs.be/conferences/esso4">www.fecs.be/conferences/esso4</a></td>
</tr>
<tr>
<td>April</td>
<td>29 Apr-2 May Oncology Nursing Society (ONS) 29th Annual Congress</td>
<td>Anaheim California USA</td>
<td>ONS, Meeting Services Team Pittsburgh, Pennsylvania, USA Fax: +1 412 921 6565 Email: <a href="mailto:meetings@ons.org">meetings@ons.org</a> Website: <a href="http://www.ons.org">www.ons.org</a></td>
</tr>
<tr>
<td>May</td>
<td>8-13 99th Annual Meeting of the American Urological Association</td>
<td>San Francisco California USA</td>
<td>Office of Education American Urological Association 2425 West Loop South, Suite 333 Houston Texas - 77027-4207 USA Tel: +1 713 622 2700 Fax: +1 713 622 2898 Web: <a href="http://www.auanet.org/">www.auanet.org/</a></td>
</tr>
<tr>
<td>June</td>
<td>5-8 40th ASCO Annual Conference for the American Society of Clinical Oncology</td>
<td>New Orleans LA USA</td>
<td>ASCO 1900 Duke Street Suite 200 Alexandria Virginia 22314 USA Tel: +1 703 329 0150 Email: <a href="mailto:asco@asco.org">asco@asco.org</a></td>
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<tr>
<td>17-19</td>
<td>World Congress on Gastrointestinal Cancers</td>
<td>Barcelona Spain</td>
<td>Heather Drew Imedex 70 Technology Drive Alpharetta - 30005 - Georgia</td>
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<td>Tel: +1 770 751 7332 Fax: +1 770 751 7334 Web: <a href="http://www.imedex.com/calendars/oncology.htm">www.imedex.com/calendars/oncology.htm</a></td>
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<tr>
<td>24-27</td>
<td>16th MASCC/ISOO International Symposium Supportive Care in Cancer</td>
<td>Miami Beach Florida USA</td>
<td>Amy Faber The Cleveland Clinic Center for Continuing Education C/O UNITECH Communications 9500 Euclid Ave. P17, Cleveland - 44195 - Ohio Tel: +1 216 444 8420 Fax: +1 216 444 8410 Web: <a href="http://www.clevelandclinicmeded.com/mascc/index.htm">www.clevelandclinicmeded.com/mascc/index.htm</a></td>
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<tr>
<td>25-29</td>
<td>23rd International Congress of Radiology (ICR)</td>
<td>Montreal Canada</td>
<td>International Congress of Radiology (ICR) 1740 Cote-Vertu Blvd Saint-Laurent Quebec - H4T 2A4 Canada Tel: +1 514 738 3111 Fax: +1 514 738 5199</td>
</tr>
<tr>
<td>July</td>
<td>3-6 18th Meeting of the European Association for Cancer Research</td>
<td>Innsbruck Austria</td>
<td>EACR 18 Secretariat Federation of European Cancer Societies Avenue E Mounier 83 Brussels, Belgium 1200 Tel: +32 0 2775 0201 Email: <a href="mailto:eacr18@fecs.be">eacr18@fecs.be</a> Web: <a href="http://www.fecs.be/conferences/eacr18">www.fecs.be/conferences/eacr18</a></td>
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<tr>
<td>22-24</td>
<td>International Skin Cancer Congress</td>
<td>Zurich Switzerland</td>
<td>Reinhard Dummer University Hospital of Zürich Department of Dermatology Gloriastrasse 31 Zurich - 8091 Switzerland Tel: +41 1 255 44 03 Email: <a href="mailto:reinhard.dummer@usz.ch">reinhard.dummer@usz.ch</a> Web: <a href="http://www.skincancer.ch/">www.skincancer.ch/</a></td>
</tr>
<tr>
<td>August</td>
<td>7-11 6th International Conference on Head and Neck Cancer</td>
<td>Washington DC USA</td>
<td>Robin Wagner Concepts in Meetings &amp; Events 1805 Andrews Blvd Pittsburgh - 15221 - Pennsylvania Tel: +1 (412) 243 5156 Fax: +1 (412) 243 5160 Web: <a href="http://www.headandneckcancer.org/">www.headandneckcancer.org/</a></td>
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<tr>
<td>25-28</td>
<td>7th World Congress of Psycho-Oncology</td>
<td>Copenhagen Denmark</td>
<td>The Danish Cancer Society Strandboulevarden 49 Copenhagen - 2100 Denmark Web: <a href="http://www.ipos2004.dk/">www.ipos2004.dk/</a></td>
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<tr>
<td>September</td>
<td>1-4 12th International Society of Endocrinology Congress</td>
<td>Lisbon Portugal</td>
<td>International Society of Endocrinology (ISe) 51-53 Bartholomew Close London - EC1A 7BE United Kingdom Fax: +44 171 796 4676</td>
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<tr>
<td>16-19</td>
<td>SIOP 2004: International Society of Paediatric Oncology</td>
<td>Oslo Norway</td>
<td>Congres Holland BV PO Box 302 Amsterdam Netherlands 1000 AH Tel: +31 2 0504 0200 Email: <a href="mailto:siop@congres.nl">siop@congres.nl</a> Web: <a href="http://www.siop.nl">www.siop.nl</a></td>
</tr>
<tr>
<td>October</td>
<td>3-7 ASTRO: 46th Annual Meeting</td>
<td>Atlanta USA</td>
<td>American Society for Therapeutic Radiology and Oncology 12000 Fair Lakes Circle Suite 375 Fairfax Virginia 22033 USA Tel: +1 70 3 3277 0170 Email: <a href="mailto:meetings@astro.org">meetings@astro.org</a></td>
</tr>
<tr>
<td></td>
<td>3-8 10th Bienniel Meeting of the International Gynecologic Cancer Society</td>
<td>Edinburgh Scotland</td>
<td>International Gynecologic Cancer Society PO Box 6367 Louisville, Kentucky, USA Tel: +1 502 891 4460 Web: <a href="http://www.igcs.org">www.igcs.org</a></td>
</tr>
<tr>
<td></td>
<td>10-14 6th Congress of the European Association of Neuro-Oncology</td>
<td>Jerusalem Israel</td>
<td>Ostra 1 Nirim St PO Box 9322 Tel Aviv – 61092 - Israel Fax: +972 3 638 4455</td>
</tr>
<tr>
<td></td>
<td>15-16 The 9th International Conference on Geriatric Oncology: Cancer in the Elderly</td>
<td>San Francisco California USA</td>
<td>Heather Drew Imedex, Inc 70 Technology Drive Alpharetta - 30005 - Georgia United States of America Tel: +1 770 751 7332 Fax: +1 770 751 7334 Web: <a href="http://www.imedex.com/calendars/oncology.htm">www.imedex.com/calendars/oncology.htm</a></td>
</tr>
<tr>
<td></td>
<td>24-28 23rd Annual European Society for Therapeutic Radiology and Oncology Meeting (ESTRO 23)</td>
<td>Amsterdam Netherlands</td>
<td>ESTRO 23 Secretariat Avenue E Mounier 83 Brussels, Belgium 1200 Tel: +32 2775 0201 Email: <a href="mailto:info@estro.be">info@estro.be</a> Web: <a href="http://www.estro.be">www.estro.be</a></td>
</tr>
<tr>
<td>November</td>
<td>5-7 Oncology Nursing Society Institute of Learning</td>
<td>Nashville Tennessee USA</td>
<td>ESMO Secretariat via la Santa 7 CH-6962 Varese-Lugano Switzerland Tel: +41 9 1973 1919 Email: <a href="mailto:info@esmo.be">info@esmo.be</a> Web: <a href="http://www.esmo.org/congress2004">www.esmo.org/congress2004</a></td>
</tr>
<tr>
<td></td>
<td>10-12 11th Hong Kong International Cancer Congress</td>
<td>Pokhara Nepal</td>
<td>11th HCCS Congress Secretariat Dept of Surgery University of Hong Kong Medical Centre Queen Mary Hospital Hong Kong Tel: +852 2818 0322 Fax: +8 52 2818 1186 Email: <a href="mailto:hccsph@hku.hk">hccsph@hku.hk</a> Web: <a href="http://www.hccs.org">www.hccs.org</a></td>
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<tr>
<td>17-19</td>
<td>1st International Conference for Oncologists and Other Health Care Leaders</td>
<td>New York USA</td>
<td>Bari Cassileth, Memorial Sloan-Kettering Cancer Center 1275 York Ave New York - 10021 - New York Tel: +1 212 639 3008</td>
</tr>
<tr>
<td>December</td>
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<tr>
<td>3-7</td>
<td>46th Annual Meeting of the American Society of Hematology</td>
<td>San Diego California USA</td>
<td>American Society of Haematology 1900 M street NW Suite 200 Washington DC 20006 USA Tel: +1 20 2776 0144 Email: <a href="mailto:meetings@hematology.org">meetings@hematology.org</a> Web: <a href="http://www.hematology.org">www.hematology.org</a></td>
</tr>
<tr>
<td>3-6</td>
<td>27th Annual San Antonio Breast Cancer Symposium</td>
<td>San Antonio Texas USA</td>
<td>Cancer Therapy &amp; Research Center SACI, Rich Markov San Antonio, Texas, USA Tel: +1210 949 5009 Email: <a href="mailto:rmark@sacitexas.org">rmark@sacitexas.org</a> Web: <a href="http://www.sacitexas.org">www.sacitexas.org</a></td>
</tr>
<tr>
<td>15-16</td>
<td>4th International Meeting of Hepatocellular Carcinoma: Eastern and Western Experiences</td>
<td>Wanchai Hong Kong</td>
<td>4th HCC-EWE Congress Secretariat Department of Surgery, University of Hongkong Medical Centre Queen Mary Hospital, Pokfulam Tel: +85 2 2818 0232 Fax: +85 2 2818 1186 Email: <a href="mailto:hcc@hkumc.hk">hcc@hkumc.hk</a> Web: <a href="http://www.hcc-eew.org">www.hcc-eew.org</a></td>
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<td>2005</td>
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<td>January</td>
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<tr>
<td>26-29</td>
<td>Primary Therapy of Early Breast Cancer</td>
<td>St Gallen Switzerland</td>
<td>Hans-Jörg Senn, St. Gallen Oncology Conferences Rorschacherstr. 110 St. Gallen - 9006 Switzerland Tel: +41 71 243 0032 Fax: +41 71 245 6805 Web: <a href="http://www.oncologiconferences.ch/index.html">www.oncologiconferences.ch/index.html</a></td>
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<td>February</td>
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<tr>
<td>10-14</td>
<td>American Society for Blood and Marrow Transplantation Annual Meeting</td>
<td>Keystone CO USA</td>
<td>American Society for Blood and Marrow Transplantation 85 West Algonquin Road Suite 550 Arlington Heights Illinois 60005 USA Tel: +1 847 407 0456 Email: <a href="mailto:mail@advment.org">mail@advment.org</a></td>
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<tr>
<td>March</td>
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<tr>
<td>3-6</td>
<td>58th Annual Cancer Symposium of the Society of Surgical Oncology</td>
<td>Atlanta Georgia USA</td>
<td>D.K. Kubis - Society of Surgical Oncology 85 W Algonquin Rd Suite 55 Arlington Heights IL - 60005 Tel: +1 (847) 427 1400 Fax: +1 (847) 427 9656 Web: <a href="http://www.surgonc.org/">www.surgonc.org/</a></td>
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<tr>
<td>April</td>
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<tr>
<td>16-20</td>
<td>96th Annual Meeting of the American Association for Cancer Research</td>
<td>AOCR</td>
<td>615 Chestnut Street 17th Floor Philadelphia, PA USA 19106-4404 Tel: +1 215 5480 9300 Email: <a href="mailto:meetings@aacr.org">meetings@aacr.org</a></td>
</tr>
<tr>
<td>28 Apr-1 May</td>
<td>Oncology Nursing Society's 30th Annual Congress</td>
<td>Orlando Florida USA</td>
<td>Oncology Nursing Society 125 Enterprise Drive Pittsburgh Pennsylvania 15275-1214 USA Tel: +1 86 6327 1667 Email: <a href="mailto:meetings@ons.org">meetings@ons.org</a> Web: <a href="http://www.ons.org">www.ons.org</a></td>
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<tr>
<td>June</td>
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<tr>
<td>2-5</td>
<td>EHA-10: 10th Annual Meeting of the European Haematology Association</td>
<td>Stockholm Sweden</td>
<td>Eurocongress Conference Management Jan van Goyenkade 11 Amsterdam Netherland NL-1075 HP Tel: +31 20 679 3411 <a href="mailto:Eha2006@eurocongress.com">Eha2006@eurocongress.com</a> Web: <a href="http://www.ehaweb.org">www.ehaweb.org</a></td>
</tr>
<tr>
<td>8-11</td>
<td>9th International Conference on Malignant Lymphoma</td>
<td>Lugano Switzerland</td>
<td>Olga Jackson, Lymphoma Conference Secretary viale Cattaneo 23 Lugano - 6900 Tel: +41 91 921 4561 Fax: +41 91 921 4563 Web: <a href="http://www.lymphcon.ch/">http://www.lymphcon.ch/</a></td>
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<tr>
<td>23-26</td>
<td>2nd Quadrennial Meeting of the World Federation of NeuroOncology</td>
<td>Edinburgh Scotland</td>
<td>EANO 6 Secretariat Federation of European Cancer Societies Avenue E Mounier 83 Brussels, Belgium 1200 Tel: +32 0 2775 0201 Email: <a href="mailto:eano6@fecs.be">eano6@fecs.be</a></td>
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<tr>
<td>July</td>
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<tr>
<td>3-6</td>
<td>11th World Conference on Lung Cancer</td>
<td>Barcelona Spain</td>
<td>Heather Drew, Imexed 70 Technology Drive Alpharetta - 3005 - Georgia Tel: +1 770 751 7332 Fax: +1 770 751 7334 Web: <a href="http://www.2005worldlungcancer.com/2005WLC/">www.2005worldlungcancer.com/2005WLC/</a></td>
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<td>October</td>
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<tr>
<td>16-20</td>
<td>ASTRO: 47th Annual Meeting</td>
<td>Denver Colorado USA</td>
<td>American Society for Therapeutic Radiology and Oncology (ASTRO) 12500 Fair Lakes Circle Suite 375 Fairfax Virginia 22033 USA Tel: +1 70 3227 0170 Email: <a href="mailto:meetings@astro.org">meetings@astro.org</a></td>
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<td>2-6</td>
<td>47th Annual Meeting of the American Society of Hematology</td>
<td>San Diego California USA</td>
<td>American Society of Haematology 1900 M street NW Suite 200 Washington DC 20036 USA Tel: +1 20 2776 0545 Email: <a href="mailto:meetings@hematology.org">meetings@hematology.org</a> Web: <a href="http://www.hematology.org">www.hematology.org</a></td>
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Cancer Forum - Volume 28 Number 1 - March 2004
THE CANCER COUNCIL AUSTRALIA

The Cancer Council Australia is the peak national cancer control organisation. Its members are the leading state and territory cancer councils, working together to undertake and fund cancer research, prevent and control cancer and provide information and support for people affected by cancer.

MEMBERS
The Cancer Council ACT
The Cancer Council New South Wales
The Cancer Council Northern Territory
The Cancer Council South Australia
The Cancer Council Tasmania
The Cancer Council Victoria
The Cancer Council Western Australia
Queensland Cancer Fund

AFFILIATED ORGANISATIONS
Australasian Association of Cancer Registries
Clinical Oncological Society of Australia Inc
Palliative Care Australia

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Dr K White PhD

CLINICAL ONCOLOGICAL SOCIETY OF AUSTRALIA INC

The Clinical Oncological Society of Australia (COSA) is a multidisciplinary society for health professionals working in cancer research or the treatment, rehabilitation or palliation of cancer patients.

It conducts an annual scientific meeting, seminars and educational activities related to current cancer issues. COSA is affiliated with The Cancer Council Australia.

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Professor B Stewart MSc, PhD, FRACI

MEMBERSHIP
Further information about COSA and membership applications are available from:
www.cosa.org.au or cosa@cancer.org.au

Membership fees for 2004
Ordinary Members: $140
Associate Members: $80
(includes GST)

INTEREST GROUPS
ANZ Children’s Haematology and Oncology
Breast Oncology
Cancer Nurses Society of Australia
Cancer Research
Data Managers
Epidemiological
Gastrointestinal Oncology
Gynaecological Oncology
Lung Oncology
Medical Oncology
Melanoma and Skin
Neuro-oncology
Palliative Care
Pharmacy
Psycho-Oncology
Radiation Oncology
Regional and Rural Oncology
Social Workers
Surgical Oncology