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Treatment to Reduce Chronic Pain in **Surgical** Patients

I would like to illustrate how we at the Pain Clinic can integrate preoperative, intraoperative and postoperative advice and treatment to reduce chronic pain in your surgical patients and if required assist you with precise interventional radiological diagnostic techniques.

We are always happy to field phone calls for immediate advice to help you with pain problems that impact upon your patients.

Orthopaedic Section

Case 1.

As all orthopaedic surgeons know, sometimes mechanical/nociceptive pain issues can coexist with neuropathic pain problems. Recently, I worked closely with an orthopaedic surgeon with a 22 year old patient who had suffered an ligamentous injury to his ankle requiring open repair. His neurology and vasculature were grossly intact.

The patient also had features of neuropathic pain with autonomic features. He had:

- Significant colour changes varying from blue to bright red in the ankle and foot with swelling to the mid-calf.
- Subjective numbness and tingling Intermittently.
- Intermittent burning pain
- Cold allodynia, where cool stimuli such as water are felt as extremely painful.

These features suggested a component of neuropathic pain. The orthopaedic surgeon contacted me and we arranged to start

vitamin C and pregabalin preoperatively. This resulted in about a 60% reduction in pain and elimination of burning sensations. His swelling also significantly reduced. Intraoperatively a spinal anaesthetic was used and pregabalin continued postoperatively. Once the patient could mobilise we began specialised neuropathic pain physiotherapy.

The patient was now back at work with mild residual swelling and some ongoing numbness and burning pain. We performed a series of three lumbar sympathectomies to try to reduce residual symptoms. These unfortunately resulted in only 3-4 days of improvement. Further treatment options included a chemical lumbar sympathectomy to increase duration of effect or even a trial of spinal cord stimulation. These were not deemed necessary as the patient was happy with his level of function and back at work.

Aggressive management preop, intraop and postop of this patient's neuropathic pain coordinated with definitive surgery may have significantly helped in his recovery and reduction in long term neuropathic pain problems.

Case 2.

I was referred a 32 yo woman with right sided sciatica by her GP. She had fallen from a standing position onto her buttocks. She was suffering from new onset right buttock pain which was markedly exacerbated by activity. The pain radiated down the back of the thigh and also into

SATELLITE CLINIC DATES FOR 2008

Kanwal

20 October
3 November
17 November
1 December
15 December

Gosford

13 October
27 October
10 November
24 November
8 December

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“As all orthopaedic surgeons know, sometimes mechanical/ nociceptive pain issues can coexist with neuropathic pain problems.”

the groin. It was felt as a dull ache. Very occasionally she had a brief “electric” pain which radiated down to her foot to the medial side. She had a positive straight leg raise at about 60 degrees which produced similar symptoms to her normal pain. Her reflexes and sensation was grossly normal. She was suffering from occasional numbness and tingling in roughly an S1 distribution. Provocative hip tests reproduced her normal pain very effectively. Her MRI showed a central and right sided disc bulge at L5/S1 which was probably compressing the S1 nerve root in the lateral recess. It seemed therefore that the patient had a mixture of neuropathic S1 radiculitis (sciatica) with no significant motor or reflex changes and some hip pathology.

Over 2 weeks we performed a root sleeve injection at the right L5 level targeting the site of MRI pathology. This had no effect on pain. The following week an intra-articular hip joint injection of local anaesthetic and steroid produced a dramatic reduction in pain which lasted about 1 week. Therefore, we concluded that the patient actually had hip pathology responsible for the vast majority of her symptoms despite the presence of sciatica.

To further evaluate the patient’s hip pathology we ordered an MRI arthrogram of the right hip which demonstrated labral pathology. Further history taking revealed a “clicking” feeling that had been present in the right hip area with mobilisation intermittently since injury. After contacting an orthopaedic surgeon the patient was referred on for consideration of hip arthroscopy.

This case illustrates how we can help sort out difficult diagnostic situations in our day surgery with precise diagnostic/therapeutic techniques.

General Surgical Section

We receive large numbers of referrals from general and gynaecological surgeons where patients have developed post-operative neuropathic pain problems. The most common situation is “post-inguinal hernia neuropathic pain syndrome”. Similar problems can arise from Pfannenstiel or similar incisions. The cause is thought to be direct damage or fibrosis surrounding the ilioinguinal &/or iliohypogastric nerves. These nerves arise from the T12 and L1 spinal nerve roots. Surgical factors that may influence the likelihood of post surgical neuropathic pain include open versus laparoscopic technique, use of mesh, or whether or not the laparoscopic technique utilises staples.

Despite this being a troublesome condition we have a range of treatment options including anti-neuropathic pain medications and interventional techniques:

- 1) As many as 50% of people may respond to antineuropathic pain medication trials but this therapy is often limited by side effects.
- 2) Pulsed radiofrequency (non-destructive) treatment of peripheral nerves is an experimental technique more commonly used and more extensively studied in treatment of spinal nerve root ganglia in sciatica. It is a safe, simple technique that can be done at the same time as a simple injection. We have had response times of well over 12 months. The technique is thought to modify dorsal horn pain neurotransmission.
- 3) The final interventional tool at our disposal is another experimental technique called peripheral nerve stimulation. This technique involves percutaneously placing an electrode in the superficial tissues in the neuropathic pain area. Stimulation via a pulse generator can then be used to provide a buzzing feeling in the pain area that is thought to block pain sensation by closing the “gate” at the dorsal horn. The exact mode of action is not understood. This technique can be trialed and if successful, permanently implanted.

In many cases patients are also assessed by the rest of our multidisciplinary team to help identify contributory psychological and physical factors that may exacerbate their condition. Abdominal wall muscular conditioning may be important in preventing recurrence. We see some people who develop abdominal wall neuropathic pain spontaneously. They may respond to therapy as outlined above but we also stress core muscle fitness as a way to prevent recurrence.

The documented success of these approaches are limited given that they are poorly studied and experimental. However, we see at least 50% of people achieve meaningful reductions in pain and an increase in their quality of life using these approaches.

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Intrathecal Drug Therapies

Part 1: Rationale for Use

The use of intrathecal analgesia for the management of non-cancer and cancer pain has been controversial due to lack of consensus as to what constitutes best clinical practice (Bennett et al., 2000). However, guidelines for patient selection have now been developed with a view to selecting those patients who are most likely to benefit from intrathecal analgesia.

Intrathecal drug delivery is based on the following rationale:

- The dorsal horn in the intrathecal space contains a high density of opioid receptors
- Direct delivery of medications into the intrathecal space avoids crossing the blood brain barrier, thereby allowing lower doses of drugs to be delivered than would be required if delivered by the oral, intravenous or epidural route
- Smaller doses of medications may reduce the systemic side effects and allow a more rapid and effective response (Medtronic, 2004)

One of the key issues to ensuring positive outcomes for patients undergoing intrathecal pump placement is appropriate patient selection. General patient selection for non-cancer pain patients may be summarized as follows:

- The patient experiences inadequate relief or intolerable side effects from systemic opioid therapy
- The patient has objective evidence of pathology
- The patient obtains psychological clearance
- The patient has no untreated substance abuse
- The patient has sufficient body size to accept the weight and bulk of the pump
- The patient has no evidence of infection

In the case of patients with cancer pain, patient selection is based on the following criteria:

- The patient experiences inadequate relief or intolerable side effects from systemic opioid therapy
- The patient's life expectancy is greater than three months
- The patient has sufficient body size to accept the weight and bulk of the pump
- The patient has no evidence of infection (Medtronic, 2004)

Appropriate patient selection is continually supported by thorough education. At Hunter Pain Clinic the nursing staff are pivotal in this process, providing in-depth information that includes a DVD, written information and a nursing education session. This is in addition to psychological clearance from the clinical psychologist.

In the next issue of Inform specific agents used for intrathecal analgesia will be discussed.

References

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Medtronic (2004). Synchronic II Programmable Infusion System Clinical Reference Guide, Medtronic, USA.



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A Patient's Story

Bill's Success



Bill (left) with his family before visiting the Hunter Pain Clinic.

While playing Rugby as a much younger man I suffered a back injury that was aggravated through a work incident. For many years I suffered from back spasms and "lock ups" in my lower back, all of which forced me to stop exercising and spend far too much time sitting still so as not to "hurt" my back. I packed on the weight and quickly found myself at 120+kgs which made my back injury all the worse.

When I went to see family GP, I was always told I was too fat and my back would be better if I lost weight, which of course would be true up to a point. One doctor decided to refer me to Dr Russo at the Hunter Pain Clinic, this referral changed my life. Approximately 4 years ago Dr Russo did all the tests that should have been done on my back and found there were real problems in my lower back and started treating me. My back is not "fixed" but the pain is being managed and the spasms and "lock ups" have stopped. I have resumed exercising and lost a lot of weight.

In December 2007 I competed in the Canberra Half Ironman (1.9 kilometre swim, 90 kilometre bicycle ride and 21.1 kilometre run), the event taking me 7 hours 25 minutes. Not a fast time but the mere fact that I can do 7 and a bit hours of exercise without stopping is amazing in itself.

My life has changed due to the wonderful treatment from Dr Russo and his fantastic staff at the Hunter Pain Clinic.

Thank you Marc,
Bill Louis

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Dr Russo and Dr Tame are pleased to offer a number of presentations on pain management. If you would like to arrange an education meeting at your practice, please contact Debbie Russo on 02 4985 1800 or management@hunterpainclinic.com.au