Briz Brain&Spine
NEUROSURGERY & SPINAL SURGERY

'Outstanding care through compassion and innovation'

Dr Francis Tomlinson
MBBS, MD, PhD, FRACS

Dr Terry Coyne
MBBS, FRACS

Dr Richard Kahler
MBBS, FRACS, AdDipBusMgt, MAICD, FAIM

Dr David Walker
BMedSc, MBBS, PhD, FRACS

Dr Michael Bryant
MBBS, FRACS

All correspondence to:
BrizBrain & Spine
Evan Thomson Building
Level 10, Chasely Street
Auchenflower QLD 4066

T - 07 3833 2500
F - 07 3833 2511
www.brizbrain.com.au

Grey Matters newsletter

JULY 2010

www.brizbrain.com.au

UPDATE

The first half of 2010 has seen several exciting changes occur within BrizBrain & Spine.

We have officially opened our new premises in the Medical Suites at St Andrew's Hospital. These new rooms allow us to better treat our St Andrew's surgical patients and provide another platform for our surgeons.

We would like to welcome our new General Manager, Mark Higginbotham, who joined us at the beginning of May. Mark will oversee all services within BrizBrain & Spine including BrizBrain & Spine Research Foundation and Fortus Health Physiotherapy. This allows our neurosurgeons more time to treat patients and ensures that we are providing the very best care.

Our physiotherapy service, Fortus Health has launched their new back pain program which provides patients with a personalised recovery plan that ensures complete care and the best chance of improvement. For further information please contact Fortus Health on 07 3833 2555 or visit www.fortushealth.com.au.

LUMBAR FACET JOINT INJECTION

Lumbar facet joint injections help confirm where a patient's pain is coming from. Investigations such as X-rays, CAT scans, MRI scans and bone scans help assess anatomy but cannot completely confirm the source of pain. Therefore a diagnostic injection is often required.

During the procedure, a needle is passed into the facet joint under X-ray guidance using either a flourscope or CAT scan. This is required for complete accuracy to confirm the correct joint. Once the needle is in the joint, an injection of local anaesthetic (e.g. Marcaine or Bupivacaine) and a long-lasting corticosteroid (e.g. Celestone) is usually performed.

Most facet joint injections are for diagnostic purposes only. The injection is not permanent and the effects will wear off. If the injection does not work, it suggests the facet joint is not the cause of a patient's pain. If the injection significantly helps, it is presumed the facet joint is a significant contributor to that pain.

If the source of pain cannot be located, only symptomatic treatment such as painkillers and anti-inflammatory medication and physical therapy can be recommended. However, locating the source of pain allows options of more permanent treatments, such as facet joint rhizotomy/denervation/ablation or in extreme cases, surgical fusion.

Facet joint rhizotomy is performed using a similar procedure for a facet joint injection. Instead of a needle, an electrode is passed through the skin to the sensory nerves surrounding the facet joint. Once the electrode is in the correct position, a radiofrequency heating current is applied to deaden the nerve fibres that carry pain signals to the brain.

If effective, the treatment should provide pain relief lasting at least 9-12 months. The nerves will eventually grow back (regenerate) but the pain may or may not return. If the pain returns, a patient may have the procedure repeated.

HISTORY OF NEUROSURGERY

Neurosurgery is commonly thought of as one of the more recent and perhaps more exotic branches of surgery. Historically this is not so. The operation of skull trephining vies only with circumcision and rhinoplasty for the honour of being the oldest surgical procedure existing, unchanged from the techniques used in ancient times.

The reasons for the operation have been lost in the dawn of antiquity. Some allege that early man was prompted by curiosity to open this intriguing box, not then recognised as the seat of intellect.

Others regard ancient trephining as part of religious rites and suggest that some of this mysticism and ritual has been carried over into the modern day neurosurgical operating theatre. A third view is that ancient man would trephine the skull to let out devils, a crude form of psychiatry.

The first clear evidence of trephining as a therapeutic procedure is found in the Hippocratic writings of the fifth and sixth centuries B.C. Trephining was advised for the removal of bone fragments in the case of depressed fractures. After this, little progress was made until the modern era, with the advent of anaesthesia.

Semmelweiss, Pasteur and Lister's work was crucial, for fatal infection dogged most attempts at anything remotely complex. With these hurdles overcome, the most common cause of death for neurosurgical patients was exsanguination on the operating table. Nineteenth century surgeon, Victor Horsley solved this problem with his bone wax. His technique of using crushed muscle patches for the control of haemorrhage also persists to this day.

Thus neurosurgery became possible.

CEREBELLOPONTINE ANGLE TUMOUR

This 65-year old man of Chinese decent, presented with headaches that had been present for several months. On examination, he had incoordination of his right arm and some evidence of right-sided lower cranial nerve dysfunction.

An MRI showed a large lesion with central hypodensity and peripheral heterogeneous enhancement. There was distortion of the brainstem (Figure 1) and obstructive hydrocephalus. The differential diagnosis was a meningioma, schwannoma or epidermoid.

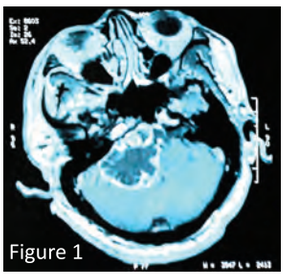

Figure 1

He underwent a suboccipital craniotomy and excision of the lesion. At operation, it was seen to have grown amongst cranial nerves VII to XII. A complete macroscopic resection was achieved. The tumour was adherent to the CN XII (hypoglossal nerve).

Although the patient had some evidence of vagal palsy postoperatively with dysphagia, this improved over a few months. He had wasting of the right side of the tongue at six months review, indicative of a hypoglossal palsy. A small area of enhancement on the lateral aspect of the medulla was evident and stable two years post-operatively, probably representing scar tissue (figure 2).

The histology showed the tumour to be a schwannoma, probably arising from the hypoglossal nerve.

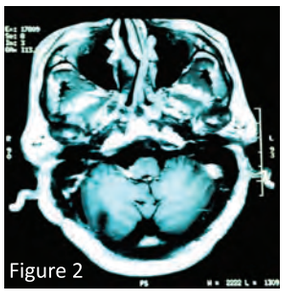

Figure 2

Hospitals:
The Wesley Hospital, Auchenflower
St Andrew's Hospital, Spring Hill
Holy Spirit Northside Hospital, Chermside

Regional Clinics:
St Vincent's Medical Centre, Toowoomba
Sunshine Coast Private Hospital, Buderim
Tweed Day Surgery, Tweed Heads
Mater Private Hospital, Rockhampton

DID YOU KNOW?

You had more brain cells at 2 years of age than at any time during your life (page 211)

Your brain is almost, but not quite, its full size on your seventh birthday (page 211)

[1] Juan, Dr Stephen. (2000). *The Odd Body and Brain*. Sydney: Harper Collins Publishers.

GREY MATTERS QUIZ

In the acute phase, immediately after a spinal cord injury, one may expect the deep tendon reflexes to be:

A. Hyperactive - through loss of the negative feedback loops with the thalamus and basal ganglia
B. Completely normal - the reflexes aren't dependant on communication with the brain
C. Reduced - through hypotensive hypoperfusion of the musculature and secondary poor functioning
D. Unable to be elicited - because of spinal shock

Please email Kate McBain with the correct answer to katem@brizbrain.com.au by close of business 10 August 2010. All correct entries will go into a draw to win a $50 Coles Myer voucher. The winner will be notified by 12 August 2010.

NEWSLETTER SUBSCRIPTION

To ensure that you always receive your quarterly copy of Grey/Hope Matters, please visit www.brizbrain.com.au and follow the prompts to subscribe.

Hope Matters newsletter

Briz Brain & Spine RESEARCH FOUNDATION

Our sponsors: Medtronic, Schering-Plough, Orphan Australia

www.bbsresearch.com.au JULY 2010

ORANGE THUMBS RUN

INTRADISCAL TRIAL

BrizBrain & Spine Research Foundation has recently undertaken new spinal research through the Intradiscal Trial.

This is a multi-centre trial that was initiated in the United States of America. It is designed to assess the safety and effectiveness of a synthesised growth hormone that has been discovered to influence growth of tissues, including the intervertebral disc cells for the treatment of disc degeneration.

The population in our study are over 18 years old, have experienced lower back pain for over three months and have not had any form of medical treatment.

To date, the study in the USA has had 38 patients injected with the synthesised growth hormone and have had no severe adverse events related to the drug. In Australia five patients have been treated, with ten more scheduled for treatment. The goal is to have 54 patients treated before the end of July.

SPONSORS

BrizBrain & Spine Research Foundation would like to acknowledge our sponsors; Orphan Australia, Medtronic and Schering-Plough. Their contribution enables us to continue our research and improve the treatment and post-operative care of patients, so they can return to a normal life as quickly as possible.

UPCOMING EVENTS

BBSRF has two exciting fundraisers in September 2010, Orange Thumbs and Day for Danielle.

Orange Thumbs consists of a gold coin donation in exchange for having your thumbs painted bright orange!

Day for Danielle is a fundraising walk at Springfield Lakes on 11 September, with a family fun day afterwards in memory of Danielle Lynch.

Please contact Kate McBain on 07 3833 2500 or katem@brizbrain.com.au for more information.

DONATE

As a not-for-profit charity, the BrizBrain & Spine Research Foundation relies entirely on the generosity of donations.

If you would like to make a contribution to our charity, you can do so by calling Kate McBain on 3833 2500 or visiting our website (www.bbsresearch.com.au) and following the prompts to donate.

Hope Matters newsletter

Briz Brain & Spine RESEARCH FOUNDATION

www.bbsresearch.com.au JULY 2010

VIV'S QUARTERLY COLUMN

Well, as my studies for my Masters finally draws to a close, I am becoming excited at another innovative research project that is about to get underway. This BrizBrain & Spine Research Foundation project is in conjunction with Griffith University and the Queensland Cancer Council.

From our previous involvement in research with Griffith University, we have seen that brain tumour patients and their families find that their psychological support needs are often unmet during their journey.

This new research project called 'Making Sense of Brain Tumour' involves providing patients and families with a counselling and rehabilitation program to support them in making the necessary adjustments with a brain tumour diagnosis. The aim of the project is to develop the support program and to evaluate its effectiveness.

Once again such projects need to be supported and I look forward to speaking with many of our brain tumour patients and families about the project.

It is hoped that this program will not only benefit those who participate, but also future patients and their families.

FUNDRAISING UPDATE

BrizBrain & Spine Research Foundation (BBSRF) has recently received some fantastic fundraising support from the Orange Thumbs Run.

BrizBrain & Spine brain tumour patient and Bundaberg resident, Garry Lawton embarked on a run from Rockhampton to Brisbane to raise money for BBSRF.

From 9 May to 1 June 2010, Garry ran 628 kilometres through various towns to collect donations and raise awareness of the foundation and the importance of brain tumour research.

In exchange for a gold coin donation, donors painted their digits with vibrant orange nail polish to support the 'Orange Thumbs' campaign.

The concept began when Garry succumbed to having his nails painted at Camp Quality by a young child, where he often spends time as a volunteer.

Garry spent the next week collecting donations from anyone who enquired about his brightly painted fingers, and so the Orange Thumbs concept was born.

Garry understands how vital research is and his enthusiasm and commitment ensures that he is a wonderful ambassador for BBSRF and was the perfect candidate to undertake this journey.

The run was very difficult at times due to hot weather and long distances but Garry persisted and was able to complete this impressive run.

Garry received a lot of support from his local community in Bundaberg. Local resident Scott donated his time to the cause and drove the support vehicle, which was heavily branded with the BrizBrain & Spine Research Foundation logo.

During the Orange Thumbs Run, Garry raised over $6,000 from visits to many different locations, including Rockhampton, Gladstone, Bundaberg, Childers, Hervey Bay, Maryborough, Gympie, Pomona, Nambour, Landsborough and Caboolture, with the official finish line at the BrizBrain & Spine office at the Wesley Hospital.

BrizBrain & Spine Research Foundation would like to thank Garry for his fundraising efforts and congratulate him on the achievement of completing this difficult feat.

Please turn the page for further images of Garry's Orange Thumbs Run.

T: 07 3833 2500
F: 07 3833 2511
www.bbsresearch.com.au

All correspondence to:
Evan Thomson Building
Level 10, Chasely Street
Auchenflower Qld 4066

Briz Brain & Spine RESEARCH FOUNDATION