

GASTRIC BANDING EXPLAINED

MULTI-DISCIPLINARY CARE IS ESSENTIAL

JUNE / JULY 2009

by Dr Craig Taylor

MORBID OBESITY: A DISEASE, NOT A CHOICE.

We now understand obesity to be a chronic disease that may have an underlying genetic predisposition. Several genes including the FTO gene, PCSK1 gene, and the ENPP1 gene have now been identified in humans that appear to predispose a person toward harmful levels of weight gain. Central to the aetiology of obesity is energy imbalance - appetite is chronically stimulated beyond meeting true energy needs, leading to weight gain.

The evidence linking obesity with many common medical problems is so convincing that weight management should be an integral part of a patient's overall management plan. Type-2 diabetes, obstructive sleep apnoea, hypertension, dyslipidaemia, polycystic ovary syndrome, ischaemic heart disease, stroke, cancer (especially breast and colon), chronic cellulitis, liver disease, accelerated degenerative joint disease, and depression are all strongly associated with obesity. A recent study published in the Lancet found that people with a BMI over 40 lost nearly 10 years of lifespan, whilst even those with mild obesity (BMI 30-35) had their life expectancy reduced by 3 years.

BARIATRIC SURGERY- SAFE AND EFFECTIVE

Bariatric surgery (derived from the Greek baros meaning weight) has developed enormously over recent years to become a safe and highly effective treatment option for morbid obesity. A major breakthrough has been the laparoscopic adjustable gastric band, which has been in regular clinical use for the past 17 years and has assisted more than 60,000 Australians toward better health and quality of life. Its appeal over other weight loss procedures is its superior safety profile and potential reversibility.

The gastric band is placed laparoscopically around the top of the stomach under a general anaesthetic. The procedure typically takes less than an hour, and patients are able to walk and consume liquids soon after waking. Most feel ready to go home within 24 hours, and one week off work is recommended.

The band principally works by reducing

hunger and food desire, and in doing so helps restore energy balance. Modulation of the vagal nerve afferents from the gastrointestinal tract, which provide important feedback to the hypothalamus, appear to be influenced differently as a result of early stretching of the gastric pouch, changes to local gastric hormones, and pressure from the band itself.

Living with a band is generally easy - a wide range of food types can continue to be consumed (albeit in smaller amounts) provided patients eat slowly and chew well. Vomiting and heartburn are not normal and should not occur on a regular basis if the band diameter is appropriately set and patients receive adequate education and instruction. Dining out at restaurants is fine, and there are no limitations on physical activity.

The adjustability of the gastric band allows the precise size to be achieved for each individual, and provides flexibility for changed circumstances such as pregnancy or illness. A small access-port (much like a portacath) is implanted under the skin which can be easily and repeatedly accessed in the outpatient clinic to add or remove saline. As peri-gastric fat tissue diminishes with weight loss, the size can be adjusted correspondingly to keep hunger and portion size appropriately controlled.

Long term problems usually present in a subacute way, allowing a planned management approach. The main issues involve slippage of the band (4%), erosion (1%), and problems with the access-port or tubing (5%). Fortunately these problems can generally be corrected, allowing weight loss to continue.

COMPREHENSIVE AND MULTI-DISCIPLINARY AFTERCARE IS ESSENTIAL

Proper obesity management requires a multi-disciplinary team approach, preferably within a dedicated clinic environment. Regular contact with the Surgeon, Dietitian, Nutritionist, Psychologist, General Practitioner, and other specialists enhances weight loss, minimises band-related problems, allows for appropriate monitoring of co-morbidity resolution, and provides the support necessary to make lifelong nutritional and behavioural changes.

With this support, patients lose an average of 60-70% of their excess body weight. Most weight is lost within the first 12 months, equating to approximately one kilogram per week, a safe rate of weight loss. The band can be simply loosened if more rapid change occurs. Longer term studies (beyond 5 years) have shown that weight loss after gastric banding is maintained.

Co-morbidity improvement is often dramatic and rapid. The majority of diabetics either have remission or significant improvement, but it does depend on how long the diabetes has been present. A recent landmark randomised controlled trial demonstrated a remission rate of 73% if gastric banding was performed within 2 years of diagnosis. Sleep apnoea responds very well, sufficient for most patients to no longer require CPAP therapy. Hypertension is better controlled in the majority, but the ability to cease medication is inversely related to age. Fertility increases in most women, and menstrual irregularity improves.

Perhaps the most significant improvements involve quality of life. Patients universally report improved sleep, mobility, energy and mood. Patients are better able to fit into clothing and aircraft seats, maintain personal hygiene, care for dependants, and enjoy wider employment opportunities. Self-esteem improves dramatically - patients seem healthier, brighter, and more confident.

WHO IS IT FOR?

Gastric banding may be appropriate where:

1. BMI > 30
2. sustained weight control cannot be achieved through diet and exercise despite genuine attempts
3. obesity has not been caused by another underlying medical disorder
4. age >16



DR CRAIG TAYLOR

Dr Craig Taylor is a laparoscopic and obesity surgeon.

His multidisciplinary

gastric banding team called OClinic includes a full-time psychologist, dietician, and physician. Free patient education evenings are held regularly in suite 301 of the San Clinic. For further details visit www.oclinic.com.au or call 8197 9595

VENOUS THROMBO-EMBOLISM PREVENTION

by Dr Stuart Pincott

Sydney Adventist Hospital (SAH) has recently embarked on a hospital-wide programme to prevent venous thrombo-embolism (VTE).

A recent initiative by the National Health and Medical Research Council, 'Stop the Clot', has highlighted the significant morbidity and mortality associated with VTE: around 2,000 Australians die each year and another 30,000 are hospitalised each year as a result of deep venous thrombosis (DVT) or pulmonary embolism (PE). PE remains the most common cause of in-hospital preventable deaths.

VTE prolongs hospital length of stay and increases costs of care. One of the long-term sequelae of DVT is chronic venous insufficiency which may lead to chronic oedema, cellulitis and recurrent venous ulceration. Chronic venous insufficiency costs the Australian health-care system in excess of \$200 million annually.

Clearly, VTE represents a significant and potentially preventable health-care problem.

The SAH has conducted a hospital-wide audit of the incidence, preventive strategies and management of VTE which indicates SAH is performing well against National averages - though we always aim to improve.

The SAH's VTE Prevention Plan involves:

- Identifying patients at risk of VTE
- Actively reducing the risk of VTE by promoting appropriate VTE prophylaxis using evidence-based guidelines
- Educating patients, staff and the community regarding VTE prevention and treatment

RISK ASSESSMENT

In untreated hospital patients, the incidence of VTE can be higher than 50%. The most commonly affected groups, if untreated, include: stroke (56%), hip replacement (51%), trauma (50%), hip fracture (45%), general surgery (25%), myocardial infarction (22%), general medicine (17%).

A formal risk assessment will be completed by the Specialist at the time of admission for every patient. The level of risk (High vs Lower) will then be clearly documented in the patient's medical record and a plan for VTE prevention will be instituted.

VTE RISK ASSESSMENT

Factors used to categorise the risk of medical and surgical patients are as follows:

| Surgical VTE Risk | One or more = High risk | |
|-------------------|-------------------------|---|
| HIGH | One or more = High risk | Hip Arthroplasty Knee Arthroplasty Major Trauma Hip fracture surgery Other Surgery with prior VTE &/or active cancer Major surgery* & age >40 years Obesity Immobility Thrombophilia Estrogen therapy Family Hx of VTE Pregnancy |
| Lower | | All other Surgery Other Surgery with risk factors |
| Medical VTE Risk | | |
| HIGH | One or more = High risk | Ischemic stroke History of VTE Active Cancer Decompensated Heart Failure Acute or chronic lung conditions Acute inflammatory disease Age > 60 years |
| LOW | | None of the above |

Contraindications to prophylaxis should be considered, and include:

| Chemical | Mechanical |
|---|------------------------------------|
| Active bleeding | Severe Peripheral arterial Disease |
| High Risk of bleeding eg Haemophilia, thrombocytopenia (platelet count < 50 x 10 ⁹ /L) | Severe peripheral neuropathy |
| Severe hepatic disease (INR > 1.3) | Severe leg deformity |
| On current anticoagulants | Lower limb oedema |
| Renal Impairment GFR < 30v | Skin grafts or rashes |

Additional risk factors for VTE that require incorporation into the overall risk assessment include: immobility, thrombophilia, oestrogen therapy, pregnancy, active inflammation, family history of VTE and obesity.

An education programme for all patients will commence prior to admission and continue throughout their stay at the SAH.

Once a thorough risk assessment has been conducted, a preventive strategy will be established that is individualised for each patient. Established guidelines will be used to determine and implement the necessary prevention for each patient.

METHODS OF VTE PROPHYLAXIS

Preventive strategies for reducing the morbidity and mortality associated with VTE due to DVT and PE can be divided into Chemical and Mechanical methods.

In many patients, particularly those at high risk of VTE, a combination of both chemical and mechanical methods is commonly employed.

Chemical prophylaxis has been established by clinical trials to help prevent VTE. Choices include subcutaneous low-dose unfractionated Heparin or low molecular-weight heparins ('Clexane', 'Fragmin'). Aspirin and Warfarin have not been shown to be effective in safely reducing VTE for general hospital populations. Chemical prophylaxis may be contra-indicated in patients with: active or high risk of bleeding, history of gastro-intestinal bleeding, liver disease, renal disease, allergy to Heparins, intercurrent anti-coagulation therapy or high falls risk.

Mechanical prophylaxis is provided by: **Graduated Compression Stockings (GCS)** Below-knee GCS reduce the risk of VTE. They must be individually measured and fitted, must be worn properly and continuously. They are contra-indicated in patients with critical limb ischaemia, poor skin integrity or peripheral neuropathy.

Sequential Compression Devices (SCD)

SCD devices reduce the risk of VTE. For high risk patients, as an adjunct to chemical prophylaxis, IPC is superior to GCS alone. IPC also has a key role for patients for whom chemical prophylaxis is contra-indicated. As is the same for GCS, IPC is contra-indicated in patients with critical limb ischaemia, poor skin integrity or peripheral neuropathy.

DURATION OF THERAPY

The benefits of reduced lengths of stay and increased levels of post-discharge community care are well-established. As a result, patients may be discharged from hospital before their risk of VTE has returned to baseline thus requiring their preventive measures to be continued in the community.

The role of health care workers in the community in continuing these treatments is vital. The most important groups of patients affected by these measures include: hip fractures, joint replacements, cancer surgery.

FUTURE CHALLENGES

The SAH will be conducting ongoing audits to analyse the impact and benefits of this programme and will provide education and information sessions for patients, their carers, staff and health care workers in the community.



DR STUART PINCOTT

Dr Pincott is a colorectal surgeon working on the North Shore and Northern Beaches. He

specialises in colorectal cancer, laparoscopic surgery, colonoscopy and pelvic floor disorders. He has an interest in surgical training and quality improvement in cancer care and surgery. Contact 9982 6333, email: stuart@spindocor.net.au



SYDNEY ADVENTIST HOSPITAL

ROBOT ASSISTED RADICAL RETRO-PUBIC PROSTATECTOMY TECHNIQUE VERSUS TECHNOLOGY

by Dr Phillip Katelaris

INTRODUCTION

The modern era of radical retro-pubic prostatectomy for early stage prostate cancer was introduced by the landmark anatomical dissections of Walsh & Donker in 1982.

Professor Patrick Walsh popularised modern nerve sparing radical prostatectomy in the modern era. His emphasis was on precise anatomical knowledge and exacting surgical technique. Prior to Walsh's innovative surgical approach, radical prostatectomy was a highly morbid operation associated with significant haemorrhage, high rates of incontinence and erectile dysfunction. Walsh detailed and disseminated the techniques of early control of the dorsal vein complex to reduce bleeding and precise localisation and preservation of the cavernosal nerves responsible for erectile function.

For twenty-five years the Walsh technique has been the gold standard surgical procedure for early prostate cancer. The application of these precise anatomical and surgical techniques is directly responsible for minimising the haemorrhage, incontinence and erectile dysfunction previously commonly associated with radical prostatectomy surgery.

With the advent of laparoscopic surgery, laparoscopic radical prostatectomy was introduced as a so-called minimally invasive procedure. Sometime later the Da-Vinci robot assisted laparoscopic radical prostatectomy technique was developed and ever since throughout the world, urologists have argued with respect to whether or not one technique is superior to another. Claims of superiority of one technique over another are often based not on science, but on ego, finance and marketing considerations. In this milieu, it is difficult for the man with early prostate cancer considering surgery to discern fact from fiction. Such a man faces the challenging questions: Is the surgery necessary and if so, what is the best technical approach?

ACTIVE SURVEILLANCE VERSUS ACTIVE MANAGEMENT

The controversy persists with respect to the need for treatment of early prostate cancer. Claims and counter-claims abound

with respect to the risks and benefits involved. Proponents of screening and early intervention point to the 25% reduction in prostate cancer related mortality noted throughout the Western world during the last two decades. Antagonists cite over-treatment and indeed, even accuse some of "prostate harvesting" to service large robot generated mortgages.

The European randomised study for screening of prostate cancer (ERSPC) and the Prostate, Lung, Colon and Ovary US randomised study (PLCO) have recently generated international debate.

In a recent important position paper, the European Association of Urology adopted "the conclusions of the ERSPC study and recognises the benefit of screening in terms of mortality reduction as well as the adverse effects of over-diagnosis and over-treatment of prostate cancer".

In a practical sense, a man cannot make a decision about prostate cancer without relevant information pertinent to himself. This information includes PSA assessment, trans-rectal ultrasound with prostate biopsy if indicated and thereafter, accurate delineation of the type of prostate cancer present on the basis of the pathology results. D'Amico has contributed to the debate significantly by his work with risk stratification. Men with low clinical stage and low Gleason scores can safely be assigned to an active surveillance treatment protocol whilst men with high risk features need active management with either surgery, external beam radiation therapy or prostatic brachytherapy.

For those men who require active management, choice of management becomes the issue. The choice between surgery and radiation therapy depends on many factors including patient age, patient co-morbidities, lower urinary tract symptoms and tumour characteristics. Younger men with organ confined disease and especially men with outflow obstructive symptoms are best managed by radical prostatectomy. Such men need to choose between open surgery, laparoscopic or robot assisted laparoscopic radical prostatectomy.

The aims of radical prostatectomy regardless of the method used are to

cure the cancer, preserve continence and maintain potency where possible.

OPEN RADICAL RETRO-PUBIC PROSTATECTOMY

Open radical retro-pubic prostatectomy may be performed by either a vertical lower mid-line incision or by a horizontal lower abdominal incision. The length of the incision is 7-8cms. The procedure is performed under general anaesthetic, the pelvic lymph nodes are bilaterally sampled and thereafter the dorsal vein complex is divided, the neurovascular bundles are subjected to early bi-lateral release and the urethra divided. The prostate is carefully separated from the anterior rectal wall and removed en-bloc along with the seminal vesicles. The bladder neck is re-constructed after identification of the ureteric orifices and the bladder neck surface re-epithelialised by advancement of bladder mucosa. A precise vesico urethral anastomosis is performed over a urinary catheter.

In preparation for the surgery two units of autologous blood are taken from the patient in case a blood transfusion is necessary. Post-operative analgesic requirements are minimal with the majority of patients requiring narcotic analgesia for twenty-four hours only. Most men are discharged from hospital on the third post-operative day.

ROBOT ASSISTED RADICAL PROSTATECTOMY

The robotic technique is performed under a general anaesthetic and involves the placement of seven laparoscopic ports into the patient's abdomen. The cumulative length of these incisions is 7-9cms, equivalent to the incision used for open surgery. The operating surgeon sits at a control console and manipulates the laparoscopic instruments in a master-slave technique.

It is necessary for a surgical assistant to stand by the patient's bedside in order to introduce laparoscopic instrumentation into the abdomen. The surgical technique used is similar to that for open prostatectomy. However, the prostate and bladder are divided early with the prostate gland being mobilised from above and pulled up to facilitate separation from the membranous urethra. This traction of the urethra during robotic surgery is thought to be responsible for the oft-reported delay in return to continence associated with this technique. After the prostate has been removed, the bladder is anastomosed or joined to the urethra over a urethral catheter in the same way as for open surgery.

Unlike open radical prostatectomy, robot assisted laparoscopic radical prostatectomy technique is performed via the peritoneal cavity.

An anastomotic leak can therefore lead to urinary peritonitis with consequent sepsis and need for urgent revisional surgery. Time spent under general anaesthesia is generally longer than for open surgery especially during the surgical learning curve. Blood loss during the robotic procedure is generally less than that with open surgery, though the use of autologous blood during open surgery minimises this minor advantage.

OPEN SURGERY VERSUS THE ROBOT

Multiple surgical series have now been published comparing open versus robot assisted laparoscopic radical prostatectomy. These studies seek to distinguish fact from fiction, marketing hype from reality. Professor David Penson, Professor of Urology at

the Norris Cancer Centre reviewed the available literature and concluded that "whilst laparoscopic robotic prostatectomy is appealing to patients for its cutting edge technology and for being less invasive than the open approach, the evidence to date shows that, in many respects, outcomes following the robotic procedure are quite similar to those following open surgery".

When equivalent series are compared, open versus robotic patients have the same chance of cure, potency and continence. Robotic claims of less scarring and earlier recovery are not evident in clinical practice.

The robot is a three million dollar piece of equipment, the annual servicing costs are three hundred thousand dollars and the disposable cost per case is between three and four thousand dollars. The out of pocket expenses borne by the patient may therefore be very considerable.

News from the San

WELL KNOWN DR JOHN KNIGHT, alias Dr James Wright, has joined Sydney Adventist Hospital's Foundation Board. Dr Knight joins recently appointed Foundation Board Member local businessman and philanthropist Phil McCarroll.

THE SAN'S NEW DEDICATED DAY INFUSION CENTRE which opened in April expects to be able to provide nearly 3000 infusion therapies each year with 11 chairs and a private room for patients that require it. Funded by private donations the Centre caters for patients with Cancer, Multiple Sclerosis, Chrohns, blood, neurological and other disorders and diseases. The unit is staffed with specialist oncology and haematology trained nurses. **Contact 9487 9591.**

A NEW SAN PATHOLOGY COLLECTION CENTRE is now open at 1 / 2 Hillcrest Road Pennant Hills. **Queries 9980 6834 or 9487 9500.**

AS PART OF THE NATIONAL HAND HYGIENE INITIATIVE the San held a successful and colourful Hand Hygiene awareness week from 20-24th April 2009. The week of activities and education promoted the importance of hand hygiene amongst staff, patients and visitors.

SUBSIDISED MOTEL STYLE ACCOMMODATION IS AVAILABLE for country or out of area visitors to Sydney having medical treatment at any Sydney Hospital or facility. The accommodation is at Jacaranda Lodge at the San but is open to patients, carers and family, regardless of where treatment is being provided. Overnight stays pre or during treatment can reduce stress. Please note Jacaranda Lodge provides accommodation only and is not staffed with medical personnel. San Cancer Support Centre runs a range of free support groups for patients (and carers) including lung, bowel, gynaecology and prostate groups. Patients, carers, family and bereaved welcome. For more information on the services visit www.sah.org.au
Contact manager Annette Polizois on 9487 9061.

NEW SAN WEBSITE! The new website is located at the same address www.sah.org.au, and with over 650 pages provides a wealth of information to patients and visitors. There is also a special section for doctors and a 'Find a Specialist' search function.

CONCLUSION

Careful patient selection and meticulous operating technique are key to good long term outcomes for men with early prostate cancer in need of active intervention.

Each surgeon should perform radical retro-pubic prostatectomy in the manner that in his hands is best able to guarantee the patient the best prospect of a satisfactory outcome.

References available upon request.



THE DA VINCI ROBOT



DR PHILLIP KATELARIS

Dr. Katelaris has extensive clinical and research experience in the

diagnosis, management and treatment of prostate cancer. He is a Director of the Prostate Cancer Foundation of Australia and is a Director of the Prostate Cancer Rehabilitation Centre. Telephone contact: 9477 7904 www.prostatecancer.com.au

NEWLY ACCREDITED DOCTORS

- Dr Murat Acar - Rehabilitation
- Dr Patricia Kho - Medical Oncology
- Dr Lewis Macken - ICU Specialist
- Dr Lian Pfitzner - Anaesthesia
- Dr Chee Wee Tan - Haematology
- Dr Susan Wright - Cardiology / Echocardiology
- Dr Zorik Avakian - Surgical Assistant
- Dr Chung Lun Cheng - Surgical Assistant
- Dr Alice Huang - Surgical Assistant

JULY
2009

Month Long Awareness: Jul-eye

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| 1 | Wednesday |
| 2 | Thursday |
| 3 | Friday |
| 4 | Saturday |
| 5 | Sunday |
| 6 | Monday |
| 7 | Tuesday |
| 8 | Wednesday |
| 9 | Thursday |
| 10 | Friday |
| 11 | Saturday |
| 12 | Sunday Diabetes Awareness Week/Wee Awareness Week |
| 13 | Monday |
| 14 | Tuesday |
| 15 | Wednesday |
| 16 | Thursday |
| 17 | Friday |
| 18 | Saturday |
| 19 | Sunday |
| 20 | Monday |
| 21 | Tuesday |
| 22 | Wednesday |
| 23 | Thursday |
| 24 | Friday |
| 25 | Saturday |
| 26 | Sunday |
| 27 | Monday |
| 28 | Tuesday |
| 29 | Wednesday Emergency Care GP Conference |
| 30 | Thursday |
| 31 | Friday |

UPCOMING GP CONFERENCES

29th July
Emergency Care GP Conference
8th September
Gastroenterology/General Medicine GP Conference
10 November
Ophthalmology/GP Conference

Registration and free buffet dinner from 6.15 pm and presentation from 7-9pm. The program is approved by the RACGP QA & CPD Program

Ring 9487 9871 to register

www.sah.org.au