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What's New in Gynaecology?

An Update for General Practitioners

Sydney Women's Endosurgery Centre www.swec.com.au

Uterine Fibroids

Dr David Rosen

Fibroids or myomas are the most common benign tumour in women affecting 30 – 40%. They are smooth muscle growths occurring within the uterus and consist of the same cell type as the myometrium (uterine muscle). They can therefore occur anywhere in the body that smooth muscle occurs and can be found less commonly in the ovary.

Fibroids have a genetic predisposition and are:

- More common in African and African-American women
- Risk increases x 3 if maternal history
- Risk increases x 2-3 with obesity (Oestrogen effect)
- Increased risk with reproductive age (more time to grow)
- Risk rises with menarche <10 years of age, Alcohol use (especially beer), Hypertension
- Reduced lifetime risk in ever users of OCP

Fibroids are classified based on their location. Presentation will depend on their size and location within (or outside) the uterus;

1. Often completely asymptomatic.
2. Menorrhagia and anemia – especially for submucosal fibroids.
3. A visible bulge or lump especially seen when lying flat and often the first sign of large subserosal fibroids.
4. Pressure effects – urinary frequency if anterior, dyspareunia or constipation if posterior.
5. Pain – fibroids can undergo ischaemic changes if they outgrow their vascular supply.

Why do Fibroids cause Menorrhagia?

In short, we don't know. It is thought that reduced venous drainage from the endometrium contributes to heavier menstrual loss, or an increase in the possible surface area of vascular endometrium may contribute. Local release of Prostaglandins from the fibroid may also contribute.

Fibroids and Fertility

- Subserosal fibroids do not effect fertility
- Intramural fibroids may reduce fertility and increase risk of miscarriage however there is insufficient evidence to determine whether removing fibroids will improve fertility outcomes
- Submucous fibroids ARE associated with reduced fertility and miscarriage

Consequently, recommendations for myomectomy in infertile women are;

1. Submucous location
2. Symptomatic – but no clear fertility benefit
3. Multiple failed cycles of Assisted reproduction

The RANZCOG only recommends Uterine artery emobolisation or mrGFUS (see Treatment section) in setting of appropriate clinical trials in infertile women with fibroids, and do not recommend GnRH analogs.[4]

Pregnancy

1. **May have no effect, but *may* ...**
2. **Increase risk of Caesarean section**
3. **Increase risk of malposition eg Breech**
4. **Failure to progress**
5. **Placental abruption**
6. **Threatened premature labour**
7. **Red degeneration – fibroids grow in pregnancy and then outgrow their blood supply causing pain that may mimic an appendicitis or release Prostaglandins that may induce contractions**

...continued over

Malignant Change

Leiomyosarcoma, the malignant form of myoma, is rare especially in the premenopause and the risk of malignancy in a fibroid is low, a recent case from the USA highlighting the suspected risk and currently quantifying it at 1:350. Rapid growth in a fibroid is the best way to distinguish between benign and malignant masses, as Ultrasound and even MRI are not foolproof in differentiation. As a result the American and now Australian authorities have provided warnings[5] regarding potential upstaging of an occult uterine sarcoma from use of a morcellator. We believe such risks are overstated however all patients are given full explanations of the current advice and alternatives. In addition, our own Dr Danny Chou is working on possible solutions by developing an "In-bag" morcellation technique to catch any sprayed fibroid material thus minimising any risk.

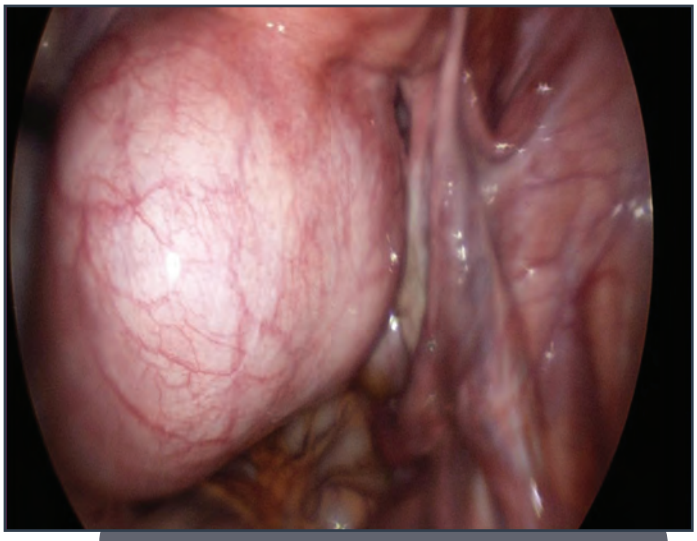

Fig 1. Large posterior cervical fibroid causing pressure effects

Treatment:

1. Symptomatic treatment – NSAID's, Iron-supplementation for anemia and various treatments for menorrhagia may be of some benefit to control symptoms in the short term

2. Medical therapies – GnRH analogs to cause a temporary menopause like state can reduce the size of fibroids during the course of therapy and are likely to resolve symptoms of menorrhagia by inducing amenorrhea during the course of therapy. Unfortunately they can only be used for a maximum of 6 months because of the risk of osteoporosis, and consequently GnRHa is mostly utilized prior to surgery to reduce the size of the fibroids.

- Progesterone antagonists such as Mifepristone (RU486) have been shown to reduce fibroid size in 3 studies involving 112 women, but has not yet been approved for use.
- Selective Oestrogen receptor modulators (SERM): according to the Cochrane database from October 2012 these suffer from poor studies with limited numbers and inconsistent evidence therefore no recommendation on usage possible.
- Raloxifene has been shown to reduce myoma volume in trial subjects but this therapy is not in common usage [1]

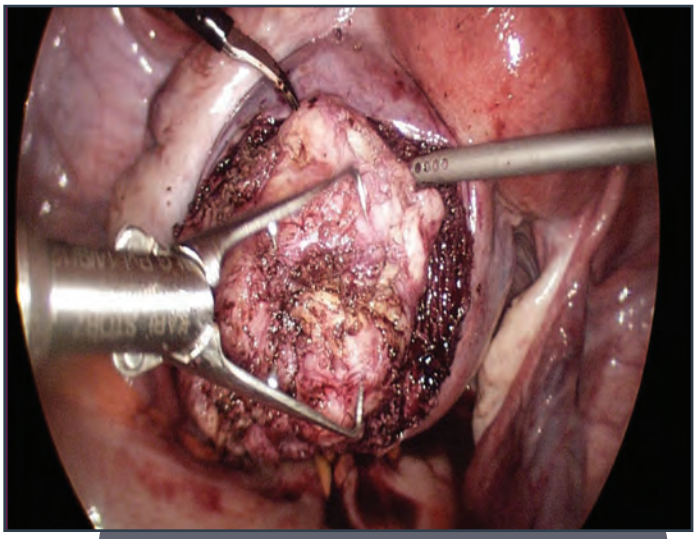

Fig 2. Same fibroid in the process of being removed laparoscopically

> "Skilled laparoscopic and now robotic surgeons can remove all but the very largest of fibroids (> 20cm!) via a minimally invasive route."

3. Non-medical therapies: No randomised controlled trials on the benefits of acupuncture.

- Herbal preparations such as *Tripterygium Wilfordii* have shown some benefits with no serious adverse effects however more studies are needed (21 trials of 2222 women)[2].

4. Radiological intervention:
A. Uterine artery embolization – the American Society of Interventional Radiologists claim 85-90% "significant or total relief of heavy bleeding, pain and/or bulk related symptoms" after UAE for women with fibroids[3]. The procedure involves sedation anaesthesia, catheterisation of the femoral artery and injection of polyvinyl particles to the feeding vessels of the fibroid(s). Hospitalisation is usually required for pain as the fibroid undergoes infarction and they estimate a return to normal activity within 7-10 days. Risk factors include infection, menopause due to occlusion of the ovarian vessels (2%), uterine injury requiring hysterectomy (1-3%). According to the RANZCOG[4] it is not suitable for polypoid submucosal fibroid or pedunculated subserosal fibroid, and perhaps not for larger subserosal fibroids. Pregnancy post UAE is considered high-risk and the college currently recommends surgical myomectomy for those wanting future pregnancies.[4]

The Cochrane database shows a similar satisfaction rate between those having UAE and surgical myomectomy with a faster return to work and shorter inpatient stay for the former. Major complications were the same however evidence shows that within 5 years of UAE, there was a 5x increased risk of surgical intervention being required (25%).[2]

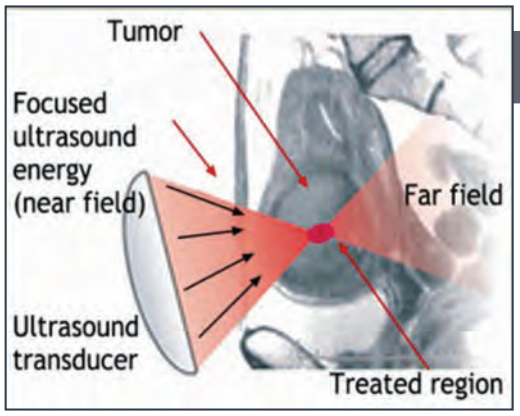

Fig. 3

Magnetic Resonance Guided Focused Ultrasound mrGFUS

Perhaps the most recent addition to the armamentarium, this is an outpatient procedure involving localization of the fibroid with MRI followed by high intensity ultra-sound to ablate the tissue. Temperature is monitored to minimise damage to surrounding structures.

The woman lies face down in the MRI machine for the 3-4 hour treatment session and the radiologist can use MRI to immediately assess the effect of treatment. Risk factors include skin burns, back and leg pain, nerve damage, cramps, fever, discharge and recurrent fibroids. At present this treatment is not available in NSW and has not been sufficiently studied in comparison to UAE or surgery.

Surgical treatment

1. Hysteroscopic resection of fibroids – some fibroids situated wholly or partially within the endometrial cavity are suitable for hysteroscopic resection. Because the approach is trans-cervical, the procedure is usually day only and relatively pain free. The percentage of the fibroid visible within the endometrial cavity will determine if the fibroid is suitable for hysteroscopic resection, however a more experienced hysteroscopic surgeon will be capable of safely resecting most submucous fibroids.

Risk factors include uterine perforation and subsequent damage to surrounding tissue, fluid absorption causing hyponatremia and cerebral oedoma (fluid absorption should not exceed 1L), excessive blood loss during a prolonged procedure. Fortunately such events are rare and hysteroscopic resection has no detrimental impact on future pregnancy or mode of delivery.

2. Myomectomy – in the past, and indeed in many centres still today, removal of large fibroids was via a laparotomy incision with prolonged hospitalisation, recovery times, scarring and pain. This is no longer a valid option. Skilled laparoscopic and now robotic surgeons can remove all but the very largest of fibroids (> 20cm!) via a minimally invasive route. Furthermore, many women have multiple fibroids however this is only a relative impediment to laparoscopic or robotic excision. The current technique at SWEC utilises dilute Vasopressin (Antidiuretic Hormone) injected under the serosal capsule of the fibroid whilst blood pressure is carefully monitored by the anaesthetist. The vasoconstriction thus caused allows a relatively blood free dissection through the stretched out myometrium over the surface of the fibroid, and the enhanced vision provided by the laparoscope allows precise entry into the capsule of the fibroid and complete dissection from the uterus *(see Fig. 3).* The often large defect is then sutured to reconstitute the uterus. Further fibroids can then be removed and suitable adhesion barriers placed over the serosal incisions of the uterus. Finally the fibroids are morcellated to remove them via the laparoscopic ports*. Inpatient stay in usually overnight and return to normal activity within 10-14 days. There is abundant evidence confirming the safety of laparoscopic compared with open myomectomy with similar risks, pregnancy outcomes, recurrence of fibroids but much reduced rate of post-operative adhesions, pain and recovery time.[2]

3. Hysterectomy – for women with symptomatic fibroids whose family is complete, removal of the fibroids with the uterus is always an option that should be considered and may even be preferred.

SWEC Playing a Leading Role

The team from SWEC will be well represented at the upcoming AGES Pelvic Floor meeting in Adelaide. Dr Trupti Kande, A SWEC Fellow, will present her paper on the SWEC experience of vaginal mesh surgery at the prestigious Chairmans session.
The next issue of th is newsletter will deal with this and other controversies in gynaecology in detail.

Later in the year the team hope to travel as a group to the European Society meeting (ESGE) in Brussels to keep up to date on the latest international trends. There are also 3 week long surgical courses planned throughout the year for both local and international gynaecologists and trainees to attend the facility at St George for exposure to advanced gynaecological laparoscopic and robotic surgery.

References:

1. Jirecek S et al Raloxifene prevents the growth of uterine leiomyomas in premenopausal women Fertil Steril 2004 Jan 81;132-6
2. www.cochrane.org/search/site/uterine%20fibroids
3. www.sirweb.org/patients/uterine-fibroids/
4. RANZCOG—C-Gyn 23 review 2014 www.ranzcog.edu.au
5. AGES-RANZCOG Statement on Tissue Extraction at Minimally Invasive Procedures, June 2014

SWEC Sydney Women's Endosurgery Centre

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Who are the Sydney Women's Endosurgery Centre (SWEC)?

SWEC is a group of Sydney Gynaecologists dedicated to excellence and innovation in minimal access surgery for women.

The associated surgeons have all trained and practiced extensively in laparoscopic surgical techniques both here and overseas and SWEC is seen around the world as a leading centre of gynaecological endoscopic surgery. Two Fellows in laparoscopic surgery are employed full time by SWEC working at St George Private and St George Public Hospitals, and visiting Fellows who spend from 1 to 2 years learning the surgical techniques we practice. Indeed our former Fellows have returned to the UK, Ireland, Saudi Arabia, Israel and India to set up endoscopic practices of their own.

SWEC Surgeons practice in private and public hospitals throughout the east, south and west of Sydney. As gynaecologists only they spend all their time involved in major gynaecological surgery including:

- Surgery for pelvic pain and endometriosis
- Removal of fibroids and difficult hysterectomy for pain or heavy menstrual bleeding
- Surgery for prolapse
- Incontinence procedures, amongst others

We strongly believe that advanced gynaecological procedures should be performed by surgeons who specialise in these cases.

SWEC

Sydney Women's Endosurgery Centre

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