San RADIOLOGY UPDATE

UFE UP-DATE

By Dr Eisen Liang

In August 2008, the American College of Obstetricians and Gynaecologists issued a practice bulletin, based on good and consistent scientific (Level A) evidence, recommending uterine artery embolisation (UAE) as a safe and effective option for appropriately selected women who wish to retain their uteri. A recent review article published in the ANZ Journal of O&G also reached the conclusion that uterine fibroid embolisation (UFE) should be considered as an alternative to surgical management of symptomatic fibroids.

Also known as uterine artery embolisation, uterine fibroid embolisation is a minimally invasive angiographic procedure for treatment of symptomatic fibroids. PVA particles are injected into the two uterine arteries resulting in devascularisation and involution of the fibroids. (Illustrations 1 & 2) It is performed under local anaesthetic requiring only a two-day hospital stay and 1 - 2 weeks of recovery. It is highly effective in controlling fibroid related symptoms such as menorrhagia and pelvic pressure, without having to surgically remove the uterus. A brief discussion of the procedure was published in the San Doctor article in 2006 (www.sir.net.au/UFEmain.html).

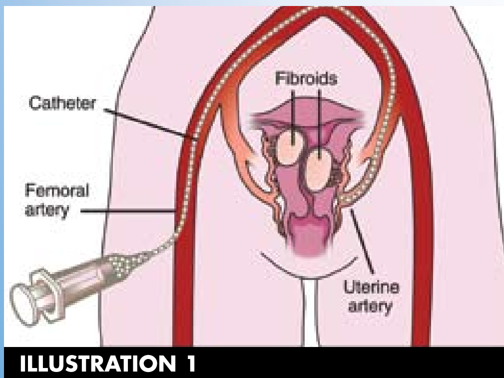


ILLUSTRATION 1

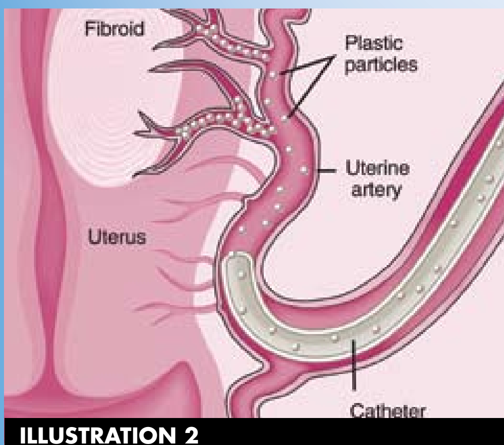
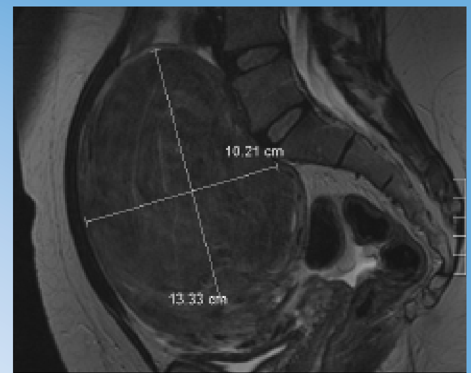


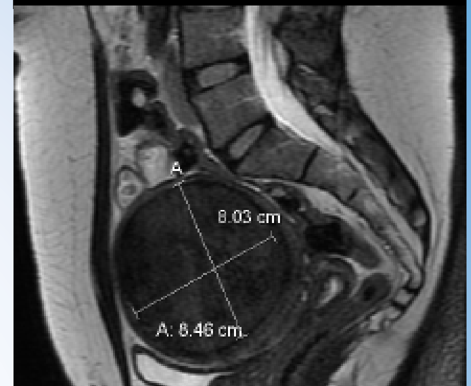
ILLUSTRATION 2

UFE was thoroughly assessed by the Medical Services Advisory Committee (MSAC) which reached the following conclusion: "The evidence suggests that UFE is safe, clinically effective and is potentially cost - effective for the treatment of symptomatic uterine fibroids". In November 2006 MSAC recommended that UFE be funded for the treatment of women with symptomatic uterine fibroids. Here are two cases that illustrate the benefits:

CASE 1: A 34 year old financial planner suffered from severe menorrhagia requiring a double pad or pad plus tampon. The patient's period lasted 2 - 3 weeks, making it difficult for a "relationship" and she also suffered from frequency and urgency. The patient was nulligravida and wanted to preserve her reproductive potential. Her MRI was discussed with her gynaecologist who did not think she was a good candidate for myomectomy. The patient had UFE and was discharged after 2 days. At three months follow-up, her period was light - lasting only 5 days rather than 15 days. She was "120%" happy with the result. At the 6 month MRI the fibroid was shown to have shrunk from 818cc to 372cc. (Case 1a & 1b)



CASE 1a: *Pre-embolisation: 818cc fibroid.*

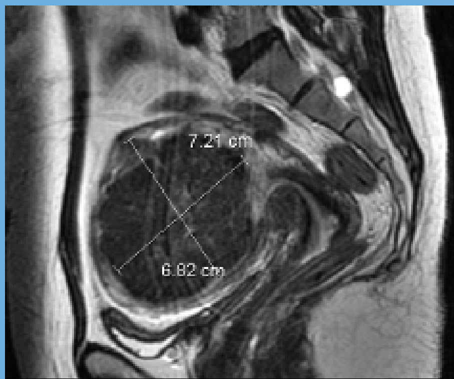


CASE 1b: *Post-embolisation: 372cc fibroid.*

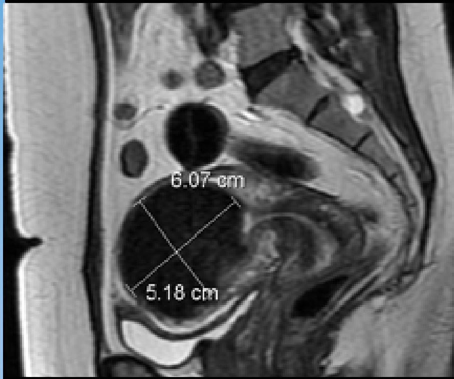
CASE 2: A 44-year-old lady had severe menorrhagia requiring a pad change every two hours for five days. She tried Mirena but this changed heavy bleeding to continuous spotting lasting 2 - 3 weeks that was equally annoying. As a busy IT engineer with two children aged 13 and 9 years of age, the 6 weeks downtime to have a hysterectomy would have been inconvenient. With UFE the patient was able to return to work and family life within one week. At the 6 months follow-up she reported she had normal periods from the first time and there was no longer any spotting and that she was very pleased with the outcome. Her fibroid volume had shrunk from 195 to 112 cc. (Case 2a & 2b)

Since the MSAC recommendation in November 2006, two randomised trials have been published: REST and EMMY.

REST TRIAL is a randomized trial comparing UFE (n= 106) against surgery (n= 51) involving 27 hospitals in UK. At 12 months, there was substantial quality of life (QOL) improvement in both groups, with no difference. The incidence of an acute adverse event was 16% in the surgical group, and only 1% in the UFE group which is not surprising since UFE is a minimally invasive procedure. Recovery was significantly faster in the UFE group (hospital stay 1 day vs 5 days; drive a car 8 days vs 34 days; return to work 20 days vs 62 days). The authors concluded that the advantages of UFE are to be weighed against the risk of treatment failure requiring a second intervention (10% in first year and 10% in subsequent year).



CASE 2a: *Pre-embolisation: 195cc fibroid.*



CASE 2b: *Post-embolisation: 112cc fibroid.*

EMMY TRIAL is a prospective multicentre randomized trial involving 34 hospitals in the Netherlands. All patients were hysterectomy candidates with severe menorrhagia (UAE n= 81, hysterectomy n= 75). QOL improvement at 6 weeks was higher in UFE group, but there was no difference at 6 and 24 months, confirming effectiveness of UFE. The high UFE procedural failure rate of 17% was a major deviation from our own experience and numerous previous publications. It has been suggested that the results are attributable to inexperienced operators from the 34 institutions diluting caseload. Nevertheless, from this pool of otherwise would - be hysterectomy candidates, 76.5% of the UFE group avoided hysterectomy at 24 months. The authors concluded that UFE is not inferior to hysterectomy, but a valuable alternative to hysterectomy; UFE is associated with significantly lower cumulative cost and is therefore a superior treatment strategy from a social economic perspective.

UAE is also effective in the management of symptomatic adenomyosis and has an acceptable long - term success rate. Less than 10% of patients needed hysterectomy for relapse of symptoms after UAE at the three-year follow-up. UAE should be considered a primary treatment method for patients with symptomatic adenomyosis.

REFERENCES:

ACOG Practice Bulletin: Alternatives to Hysterectomy in the Management of Leiomyomas: http://www.myoma.co.il/Html/newe1.pdf

What is the place of uterine artery embolisation in the management of symptomatic uterine fibroids? Hickey et al ANZJOG , Volume 48, Number 4, August 2008 , pp. 360-368(9)

SAN Doctor Article 2006 by Dr Eisen Liang: http://www.sir.net.au/UFEmain.html

Full MSAC report and full reference list: www.msac.gov.au/internet/msac/ publishing.nsf/Content/completed-assessments-lp-1 (select assessment 1081)

REST Trial: Uterine-Artery Embolisation versus Surgery for Symptomatic Uterine Fibroids N Eng J Med 2007:356; 360-70

EMMY Trial: Uterine artery embolisation versus hysterectomy in the treatment of symptomatic uterine fibroids: 2 years' outcome from the randomized EMMY trial

JUNE 2007 American Journal of Obstetrics & Gynecology

Long-Term Results of Uterine Artery Embolisation for Symptomatic Adenomyosis Kim et al AJR 2007; 188:176-181.

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Dr Liang has been with San Radiology since 2004. He has a keen interest in embolisation for fibroid and liver tumours. His other interests include oncology intervention, as well as vascular intervention for peripheral vascular disease and renal artery stenosis.

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