SPONTANEOUS PREGNANCY AFTER UTERINE ARTERY EMBOLISATION FOR UTERINE FIBROID

M Said, FRCOG; I Hussein, FRCOG

INTRODUCTION

Symptomatic fibroids are a common gynaecological condition. Typically they are managed by surgical intervention: hysterectomy or myomectomy. There is no longterm effective medical treatment. Uterine artery embolisation (UAE) is an effective non-surgical treatment for uterine myomas[1].

An interventional radiologist performs the procedure. The patient is sedated and, under local anaesthetic, a catheter is inserted into the femoral artery using a bilateral technique. Using X-ray equipment to locate the blood vessels that are feeding the fibroids, fluid containing tiny particles is injected through the catheter into the small blood vessels. The particles silt up and block off the blood supply to the fibroids causing them to shrink. Patients are in hospital for 24 to 36 hours, and advised to rest for one to two weeks.

Reductions in mean uterine volume and fibroid volume of 40-75% were reported in the first six months following UAE. Greater reductions in fibroid volume were associated with larger fibroids and increased vascularity[2].

There have been few complications reported in the literature; these include emergency hysterectomy and premature ovarian failure[3]. The effect of UAE on fertility and pregnancy is not known, though pregnancies following UAE have been reported. We describe a case of spontaneous pregnancy that occurred after UAE.

CASE REPORT

A 32-year-old nulliparous woman was referred to the gynaecology clinic complaining of menorrhagia, anaemia and a large mass arising from the pelvis. An ultrasound scan was performed, which showed a 14 x 10.5 x 9.2 cm left-sided fibroid, and a second fibroid, on the right side, measuring 3.4 x 2.9 cm. Both ovaries appeared healthy.

The options of treatment were discussed, including UAE of fibroids, myomectomy and hysterectomy. The patient wished to have the option of having children in the future, and expressed her wish to have the first option. She underwent uncomplicated UAE in December 2001. She complained of a moderate degree of pain for a few days and a brown non-offensive discharge for six weeks following the procedure.

At a further appointment six months later, the fibroid size was reduced by only 20%. Angiography confirmed the contrast-enhanced magnetic resonance imaging (MRI) finding that there was still a supply mainly from the left uterine artery to the fibroid and she underwent repeat embolisation in January 2003. This resulted in the fibroid being reduced in size by 40%.

The patient was unable to conceive spontaneously, and was referred for in vitro fertilization. She had two unsuccessful attempts in 2004. However, she conceived spontaneously in 2005.

An ultrasound scan performed at 20 weeks of gestation showed a left-sided fibroid, measuring 11.8 x 10.6 x 7.3 cm. The right-sided one was 3.2 x 3.2 x 2.6 cm. There was no significant change in the size of the fibroid during pregnancy.

The pregnancy continued uneventfully until 29 weeks of gestation, when she developed raised blood pressure, which was controlled with oral labetalol. However, a serial ultrasonic scan for growth measurement revealed restricted growth and oligohydramnios. She was delivered by emergency Caesarean section in May 2006 because of placental insufficiency and static growth at 34+ weeks. Steroid injections were given a few days prior to delivery.

During the Caesarean section, there was excessive vascularity due to low-lying anterior placenta and large anterior fibroid near the lower segment.

A healthy male infant weighing 2090 grams, Apgar score of 6 at 1 minute, 9 at 5 minutes, who was suffering from respiratory distress syndrome, was ventilated and recovered well.

DISCUSSION

Fibroids are not necessarily a cause of infertility but predispose to complications associated with pregnancy including spontaneous abortion, preterm labour, mal-presentation, and post partum haemorrhage. UAE should only be considered for women with symptomatic or problematic fibroids who might otherwise be advised to have surgical treatment. UAE widens the treatment options for suitable patients who wish to avoid major surgery or are poor surgical risks. There are few studies to support UAE as a preferable treatment for fibroids in women who desire to maintain fertility. Still, no randomised controlled trials have been carried out to compare the effect of UAE to myomectomy in women seeking future pregnancies.

UAE is contraindicated in women who have evidence of current genitourinary infection and/or malignancy.

The crude rates of complications in two of the larger series (>100 patients) were between 6% and 13.0%. Post-embolisation syndrome (pain, nausea, fever and vomiting) is not uncommon. Sepsis following necrosis of the fibroid is the

most serious and most common adverse event[4]. Uterine fistula and wall defects have also been reported following UAE[5]. The impact on fertility appears to be small but there are uncertainties about the mechanism by which UAE ovarian dysfunction occurs. Permanent ovarian dysfunction is reported in a small number of cases. One explanation is that it occurs through non-target embolisation of the ovarian arteries.

MRI has emerged as the primary tool for assessing the potential of complications following the procedure, and our understanding of vaginal discharge and uterine infarction has been increased as a result of its use.

In our case, the position of the placenta in proximity to the original position of the fibroid indicates that the vascular supply to the endometrium/myometrium following UAE was compromised and the implantation of the embryos and the subsequent development showed evidence of fetal growth restriction.

The gynaecologist is likely to be the primary initial consultant to patients who present with complaints of symptomatic myomas. Therefore, they must be familiar with the indications, exclusions, outcome expectations, and complications of UAE in their particular centre. Women considering treatment of fibroids should be counselled that while the early results of UAE are encouraging, no longterm data exist. UAE, as a treatment for fibroids in patients wishing to preserve their fertility, should be undertaken with full disclosure to the patient about the limitations of such a procedure and the lack of existing data regarding future fertility and pregnancy outcomes. They should be counselled regarding the risk of major complications of UAE where hysterectomy may be urgently required and potentially lifesaving[6].

CONCLUSION

We think this case highlights that UAE has become an accepted therapy for uterine fibroids. The increase in understanding, gained in recent years, has helped to confirm the effectiveness and relative tolerability of this therapy. As the procedure is relatively new, data on longterm outcomes are not available. Hence, accurate selection and counselling should be ensured. The important factors that distinguish UAE from other treatment options (subject to clinical suitability for treatment) are patient choice and fertility[7].

UAE may reduce healthcare costs associated with treating fibroids through shorter hospital stays and faster recoveries.

It is not possible at this point, however, to give an unequivocal answer to the question whether the method should also be routinely offered to women who are planning pregnancy.

Longer term, larger randomised controlled trials comparing UAE with other treatments for managing the symptoms of fibroids in the United Kingdom population are required.

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