Uterine Artery Embolisation for Fibroid Uterus : A Case Report


Abstract
Uterine artery embolisation is one of the various modalities available for the management of uterine fibroid. We report one such case of large fibroid who was successfully treated by this technique.

Introduction
Uterine artery embolisation is one of the various modalities available for the management of uterine fibroid. In the beginning it was treatment offered for women with symptomatic fibroid having high surgical risk like that of history of thromboembolic episodes, severe obesity, uncontrolled diabetes and immunocompromised states. But, recently, it is also been offered as an alternative to conservative surgery to fibroid uterus.1,2 We report one such case of large fibroid who was successfully treated by this technique.

Case Report
A 40-year-old, para two had polymenorrhoea since two years with history of passing clots. She had taken medical treatment for six cycles for polymenorrhagia without much relief. The uterine curettage done three months back showed report of proliferative changes without any evidence of malignancy. She had undergone three operations in past, two caesarean sections and one exploratory laparotomy. The patient was known case of hypertension taking treatment.

On general examination, mild pallor was present. The bimanual examination revealed a 14-16 week size enlarged uterus. On ultrasound examination, the uterus measured 14.5 x 10.5 x 9.5 cm and showed a 10 x 7 x 7 cm size well defined hypoechoic intramural fibroid in the anterior wall. Considering her history of three previous operations and high blood pressure, patient and relatives were reluctant to go for one more surgery. In view of the technical difficulties that would have been encountered during hysterectomy due to adhesions, she was counselled for uterine artery embolisation.

Selective pre-embolization uterine artery angiogram showed dilated tortuous hypertrophied bilateral main uterine arterial trunks with extensive intramural tortuous arcuate and radial branches supplying the fibroid with tumour blush during the arteriodocapillary phase and washout during the venous phase. Both uterine arteries were then embolized using a mixture of 500-750 micron polyvinyl alcohol particles and gel foam particles. Post-embolization angiogram showed complete lack of tumour blush on both sides. Elective ovarian arterial study showed no supply to the fibroid from either side.

The patient was kept under observation overnight and discharged on the next day on oral antibiotics and analgesics. She developed amenorrhoea for 3 months but regained normal menstrual cycles thereafter. At follow up visit after 6 months, she had normal menstrual cycles and was totally asymptomatic. Ultrasound examination showed considerable reduction in the size of the uterus and fibroid. Uterus measured 8.7 x 6.4 cm and the fibroid measured 5.2 x 4.4 x 4.0 cm. The patient is still following up in our hospital.

Discussion
Leiomyoma is one of the most common
benign tumours of female reproductive tract. For symptomatic fibroid, myomectomy or hysterectomy has been standard surgical therapy. In last two decades, various forms of alternative medical and surgical options have been evolved i.e. GnRh analogues, laparoscopic resection, etc. In recent years, uterine artery embolisation is developing as a new promising treatment modality for patients of fibroid uterus who desire to retain uterus and also fertility. The use of this technique for fibroid was first reported by Ravina et al in 1995.

This procedure involves occluding the vessels using polyvinyl alcohol particles. This procedure is done in interventional radiology suite under local anaesthesia plus sedation. Digital subtraction angiography using Frech-5 catheter is passed through femoral artery to canulate uterine artery via internal iliac artery. The various agents used for embolisation are polyvinyl alcohol, gelatin sponge or steel coil.

Polyvinyl alcohol is a semi-permanent occlusive agent with limited potential for recanalisation. It has smaller particle size which helps in more complete occlusion.

Gelatin sponge is cheap, safe, easily available, gets completely absorbed in body in one month and thus helping in preservation of fertility and menstruation.

Steel coil (or Platinum/Tungsten), attached to thrombogenic material like wool or Dacron can be used to achieve permanent occlusion of the vessel.

This procedure is beneficial in symptomatic fibroid of significant size.

It is not recommended in submucous fibroid or adenomyosis.

It is comparatively noninvasive and causes marked reduction in symptoms, size and also recurrence rate is low.

The advantage of this procedure is preservation of fertility, but may reduce ovarian reserve. It is particularly useful in cases with operative risk, obesity, diabetes, HIV, dense adhesions. It can also be tried prior to surgery as it causes reduction in size and vascularity.

Though complications are rare, few patients may experience 'Post embolisation syndrome', characterized by severe pain and cramps lasting for 1-14 days, fever, nausea, vomiting, malaise, and anorexia due to infarction. Embolisation can cause necrosis of fibroid with possibility of infection. Failures, recurrence are other complications. The sarcomatous changes in nonresponders have been reported. Radiation exposure and decrease in vascularity can cause ovarian failure.

Also availability of facility and expertise along with high cost are other factors to be considered before taking decision.

Generally, bilateral embolisation is successful in 95-98% of women and is shown to have success rate of 88-90% in treating fibroid related symptoms.

References