

Uterine fibroid embolization: Is there a role?

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We present a case of uterine fibroid embolization (UFE) in Salmaniya Medical Complex, Bahrain, as a primary therapeutic option for a selected case of symptomatic fibroid uterus. Within 6 weeks of UFE, this patient developed life threatening infection due to sloughing of the fibroid through the cervix but she conceived within 11-months of the procedure and delivered normally at term. As this patient developed life threatening infection, the author is left with the predicament whether to try it again or not in the next selected case.

Uterine fibroids are the most frequent cause of non acute abnormal uterine bleeding and can cause symptoms related to its bulk. All primary treatment available like hysterectomy, myomectomy, myolysis, cryoablation and hormonal therapy have substantial disadvantages. In 1994, UFE was being prompted as a new, safe, non surgical treatment by Ravina et al.¹

Our patient was a 20-year-old, nulliparous girl who had fibroid uterus extending 2 fingers above the umbilicus. Ultrasound and computed tomography confirmed a large intramural posterior wall fibroid uterus measuring 17 x 15 cms. The patient was refusing surgery as a primary treatment at any cost. Uterine fibroid embolization was carried out by single puncture using 700 polyvinyl alcohol particles lodged permanently inside both the uterine arteries to block or damp the flow of the blood through these vessels. There was an exposure of approximately 20 rads, procedure time was approximately 50 minutes and prophylactic antibiotic was given before the procedure. She was discharged after 48 hours but she continued to have moderate degree of pain for 5 weeks and then developed life threatening septicemia for which she was admitted to the Intensive Care Unit for 5 days. On 6th week, she had vaginal myomectomy for sloughing of submucous fibroid through the cervix. (Figure 1) Postoperatively, she showed immediate improvement. She conceived after 11-months of treatment and pregnancy till normal delivery was uneventful.

Uterine fibroids affect millions of women and may account for 60% of all hysterectomies performed annually in the United States of America.² Fibroids appear to be ideally suited to embolization as they derive blood supply entirely from uterine artery. Recently, UFE has captured the public imagination as an effective, uterine sparing



Figure 1 - Computed tomography scan showing myometrium with large necrotic fibroid inside the endometrium.

new therapy and minimally invasive alternative to surgery. Embolization of uterine artery has a differential effect on the fibroids as compared with the effect on myometrium. This allows dramatic shrinkage of fibroid size without adversely affecting myometrium. The viability of the uterus is maintained via collateral circulation. Our patient was looking for alternative treatment to avoid surgery, so UFE was offered with main advantage of avoiding psychological trauma of surgery. Uterine fibroid embolization widens the treatment options for the patients who desire to avoid hysterectomy, myomectomy, hysteroscopic resection, myolysis or laparoscopic myomectomy. It is reported to be associated with less morbidity than conventional surgical modalities available for treating the symptoms of uterine leiomyomata. This patient went home after 48 hours, thus, having the advantage of shorter hospitalization and return to activities earlier than surgical patients. Recovery in weeks is shorter and resumption of normal activities is 80% in 4 days and 90% in 10 days.³ After UFE, there was a significant reduction in the uterine volume and improvement of the accompanying symptoms of menorrhagia and pelvic pain. The overall success rate, defined as marked or complete resolution of primary fibroid related symptoms, requiring no further surgical treatment is 85-94%. Following UFE, total uterine volume is decreased by an average of 50% with a range from 48-78% and 81-92%, this was noticed with significant improvement in abnormal bleeding.⁴

Our patient had recurrent bout of moderate pain for 5-weeks but ultimately she developed life threatening septicemia at 6-weeks due to sloughing of degenerating fibroid. Once the fibroid was avulsed under anesthesia vaginally, the symptoms of the patient resolved immediately. Fibroids sloughing with passage out through vagina have

occurred in approximately 5% of patients. Bradley et al⁴ patients also had a large necrotic submucosal fibroid that was extruded through the cervix and appeared at the introitus. Infection from tissue death of fibroids can lead to endometritis.

As with any invasive procedure, UFE is not completely without complications. Short term complications are related primarily to arterial access including thromboembolic phenomena, groin hematoma and local infection. Target organ complication includes uterine infection, uterine perforation, sexual dysfunction, fibroid sloughing and one case had vesicouterine fistula.⁵

Patients who have had fibroid embolization have become pregnant as in our patient, after 11-months of embolization. Bradley et al⁴ described a woman who conceived immediately after the procedure. Ravina et al¹ also reported a successful twin pregnancy in his patients. There have been no studies that define the incidence of pregnancy after the procedure and further studies are necessary to delineate the impact of UFE on fertility. Many gynecologists consider UFE as safe, exciting, promising, minimally invasive and highly effective non surgical primary treatment for symptomatic fibroid uterus. In spite of this, patient should be made aware of the limitations of the treatment and she should recognize that complications of the procedure may lead to hysterectomy. As this patient did not want to have surgery at any cost, UFE was tried on the first selected case in our institution as it allowed uterine preservation along with avoiding psychological trauma of surgery. In spite of having fulminating infection due to sloughing of the fibroid through endocervical canal, this patient conceived after 11-months. Accurate pretreatment diagnosis is essential as UFE allows uterine preservation and resumption of usual activities earlier than surgical method.

At the moment, some of the gynecologist may not be familiar with it but indication of its use may expand in the future and this may find a permanent place amongst many modalities available for the treatment of symptomatic fibroid uterus. It is also important that radiologist work closely with the gynecologist to follow up patients carefully and also ensure that the technique is performed carefully with particular attention paid to keeping radiation dose to the minimum. Future considerable research is needed along with long term follow up after this procedure.

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