CASE REPORT

DOI: 10.4274/eamr.galenos.2022.05900
Eur Arch Med Res 2022;38(4):304-307

Treatment of Abnormal Uterine Bleeding Due to a Leiomyoma in a Bicornuate Uterus with Uterine Artery Embolization: The First Case in the Literature

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Abstract

Uterine leiomyomas constitute an important group of abnormal uterine bleeding (AUB) according to International Federation of Gynecology and Obstetrics classification system (PALM-coein). Bicornuate uterus anomaly is the 3rd most common uterine anomaly and the combination of these two entities is also rare. We present 46 years old gravida 1, para 1 women suffering from AUB for 6 years. There was bicornuate retroverted uterus image with 2 different endometrial cavities and 5 cm class 2 leiomyoma according to PALM-coein classification. Oral progesterone treatment was insufficient formerly and she refused hysterectomy or myomectomy procedures. Because she is not suitable for intrauterine levonorgestrel treatment, she was discussed with the interventional radiologists and planned for uterine artery embolization (UAE). Maximum diameter of 54 mm intramural myoma on magnetic resonance imaging before embolization was shrunk to 39 mm at the 6th month of intervention with no further anemia, AUB, and fatigue. This is the first case report representing the treatment of uterine leiomyoma in a bicornuate uterus with a successful UAE despite its uterine anomaly. UAE is a reliable technique in patients refusing surgery and predicted to have a risky and difficult operation, if performed by experienced interventional radiologists.

Keywords: Abnormal uterine bleeding, leiomyoma, bicornuate uterus, uterine artery embolization

INTRODUCTION

Abnormal uterine bleeding (AUB) is one of the most common reasons for gynecology outpatient clinic admission of women of reproductive age. It has a wide range and disturbs the quality of life leading to emotional, social, sexual, financial, and medical burdens (1). To standardize this wide range of bleeding pattern International Federation of Gynecology and Obstetrics (FIGO) classification system 2 (PALM-coein) was declared in 2011 and the classification was grouped as polyp(s), adenomyosis, leiomyoma, malignancy, coagulopathy, ovulatory dysfunction, endometrial disorders, iatrogenic, and not yet classified (2). Leiomyomas as a member of AUB has also subgroups according to PALM-coein and there are many ways of managing these benign lesions including medical, surgical, or interventional (3).

Uterine anomalies are another issue and the most common type of female genital tract anomalies that has the approximate prevalence of 2-10% among women of reproductive age (4). Although it is not classified with PALM-coein, bicornuate uterus anomaly is the 3rd most common uterine anomaly coming after arcuate uterus and uterine septum in which the etiology is incomplete fusion of the müllerian duct with two communicating endometrial cavities (5).

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Cite this article as: Ketenci Gencer F, Gürkan O, Hasanefendioğlu Bayrak A, Kobaner Cankoy N. Treatment of Abnormal Uterine Bleeding Due to a Leiomyoma in a Bicornuate Uterus with Uterine Artery Embolization: The First Case in the Literature. Eur Arch Med Res 2022;38(4):304-307

Received: 09.04.2022
Accepted: 02.11.2022

CASE PRESENTATION

We present 46 years old gravida 1, para 1 women suffering from AUB for 6 years. She had been using diapers instead of classic sanitary peds due to heavy menstrual bleeding. However, especially in the first 2 or 3 days of menstruation, diapers were not sufficient. She stated that during her menstrual period, she feels dizziness, palpitation, fatigue, and cold. She was prescribed for anti-anemics for many times formerly and still using but she did not benefit. In her physical examination, she was pale with a body mass index of 40.7. She had grade 1 perineal laceration due to vaginal delivery and normal cervix on speculum. There was bicornuate retroverted uterus image with 2 different endometrial cavities and 5 cm type 2 leiomyoma according to PALM-coein classification on the left horn of the uterus and compressing the endometrial cavity under transvaginal ultrasound. Her hemoglobin level was 9.1 g/L, and hematocrit was 29%. The magnetic resonance imaging (MRI) revealed 55 cm^3 with a maximum diameter of 54 mm intramural myoma and additional leiomyomas with a diameter of less than 1.5 cm without any suspicion of malignancy (Figure 1). Three endometrial samplings performed formerly revealed no sign of malignancy. She had used oral progesterone, but no positive effect was observed on uterine bleeding and intrauterine levonorgestrel could not be scheduled due to her uterine anomaly. Myomectomy was not discussed due to her age and her body mass index was another morbidity. Nonetheless, total hysterectomy was offered but she avoided any type of organ losing operation. Then she was discussed with the interventional radiologists. After informing the patient in detail, she was planned for uterine artery embolization (UAE) despite her uterine anomaly. All possible scenarios during the operation were informed to the patient before the procedure. UAE was performed with a high concentration to be sure about the vessel anatomy. Five-F (french) introducer sheath was introduced through right common femoral artery after local anesthesia was applied. Five-F catheter was guided into the internal iliac artery. After contrast injection, uterine artery was catheterized super selectively with microcatheter. Arteriography was performed with 5-10 mL on contrast on each uterine artery (Figure 2). Microcatheter was placed after vaginal artery and embolizing drug was injected until achieving the stasis of contrast material. 350-500 µm and 500-700 µm polyvinyl alcohol particles were used for embolization. Contrast injection image of post-embolization was also determined (Figure 3). After

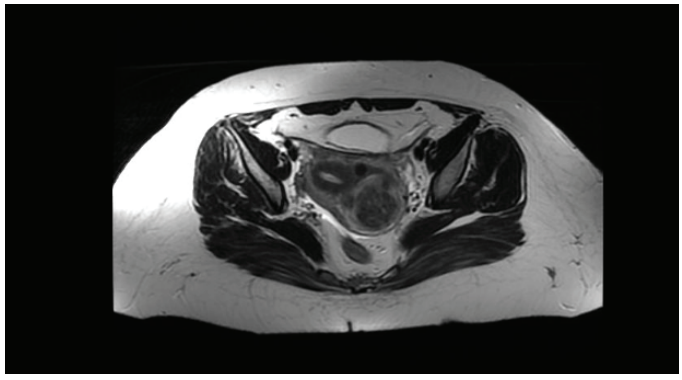

Figure 1. 54 mm type 2 leiomyoma shown in the magnetic resonance imaging before uterine artery embolization

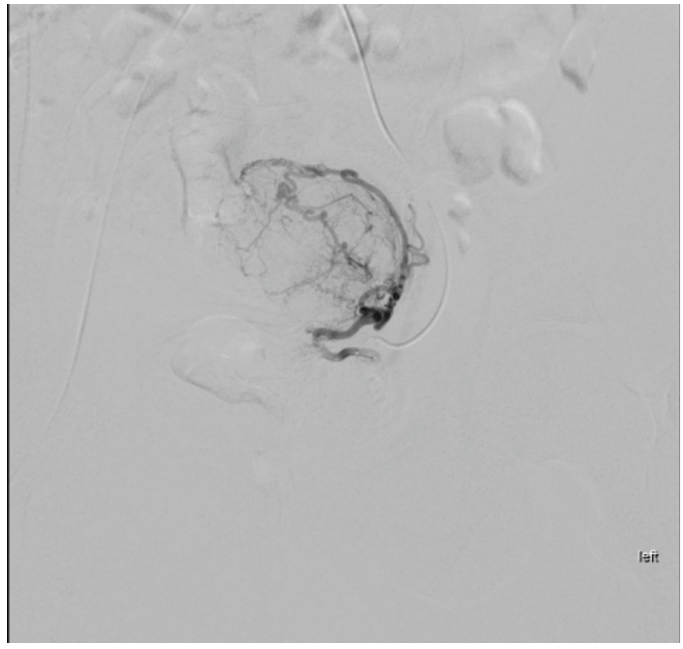

Figure 2. Axial T2 weighted contrast-enhanced magnetic resonance imaging before uterine artery embolization

Figure 3. Axial T2 weighted contrast-enhanced magnetic resonance imaging after uterine artery embolization

both embolization of uterine arteries was made, catheters were removed and pressure bandage over the wound was placed. During and after the procedure no complication was observed.

The first control visit was performed 1 month after the embolization and the clinical symptoms decreased in severity with less bleedy menstrual period but still using diapers. On her second visit at the 6th month, the size of the leiomyoma was shrunk to 39 mm on MRI with normal menstrual bleeding (Figure 4). Her last hemoglobin and hematocrit level was 11 g/L and 35%, respectively. Fatigue disappeared and no additional signs were felt during menstruation.

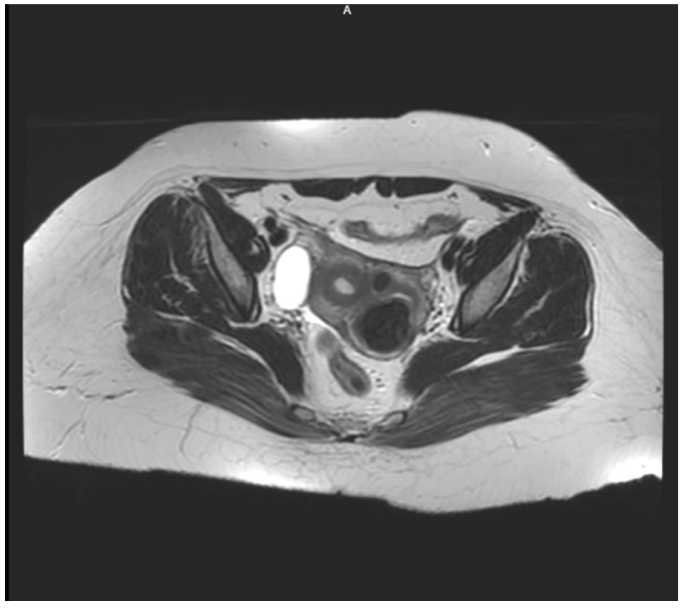

Figure 4. Shrunk leiomyoma with a diameter of 39 mm in the magnetic resonance imaging after 6 months of uterine artery embolization

DISCUSSION

There are lots of clinical trials concerning embolization in leiomyoma especially for patients refusing surgery. Ravina et al. (6) was a researcher firstly applied UAE to their patients and achieved a significant success rate. Dutton et al. (7) compared the effectiveness of UAE and hysterectomy and revealed that UAE has fewer complication rates but one-fourth of the UAE patients needed additional treatment modality for their leiomyomas in their multicenter retrospective study. They also concluded that both modalities are safe and effective for treatment of leiomyomas (7). Manyonda et al. (8) compared myomectomy procedure with UAE and showed that menstrual bleeding scores were similar after interventions. The rate of additional treatment for harboring bleeding was 7% for myomectomy and 16% for UAE (8). On the light of these information, our case was also a candidate for UAE but the confounding factor was the presence of bicornuate uterus anomaly. A successful embolization was performed by talking to the patient in detail, and we observed that the patient's complaints resolved and did not recur during the follow-up period.

CONCLUSION

To conclude, this is the first case in the literature of a symptomatic leiomyoma in a bicornuate uterus treated with UAE. Although the anatomy of the vessels was a bit difficult in accordance with the anatomy of bicornuate uterus, it was not so complicated and there was no need to end up the procedure. This case may also be a good example for managing symptomatic leiomyomas in not only in bicornuate uterus but also other types of uterine anomaly in patients refusing surgery. UAE can be a reliable technique if performed by experienced interventional radiologists.

Ethics

Informed Consent: Patient consent for publication was obtained for this case report.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: F.K.G., O.G., Concept: F.K.G., O.G., Design: F.K.G., Data Collection or Processing: F.K.G., O.G., N.K.C., A.H.B., Literature Search: F.K.G., O.G., N.K.C., Writing: F.K.G., O.G.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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