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Case Report

Delayed expulsion of a large fibroid after transcervical radiofrequency ablation: A case report ☆,☆☆

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ABSTRACT

Fibroids are the most common type of benign uterine tumor, which occur up to 68.6% of women. Hypermenorrhea is the most common symptom with a general prevalence of 40%-54%, followed by dysmenorrhea and low abdominal pain. Transcervical fibroids ablation was developed as a minimally invasive, incisionless treatment of fibroids in a short time. This method is safe and effective with an excellent record of safety. We present the case of a 40-year-old woman, who attended in our fibroid excellence center. She reported severe hypermenorrhea and dysmenorrhea. Family planning was definitely completed. Using vaginal ultrasonography a FIGO 2-5 fibroid of 5 cm in diameter was detected. Different treatment options were discussed: medical treatment, laparoscopic fibroidectomy, hysterectomy, and transcervical radiofrequency ablation with Sonata System. Because of advantages of transcervical radiofrequency ablation (minimal invasive treatment without incision, effectivity of method, short surgical time) the patient decided on this method. Three months later, the patient came to the first follow up. She reported a significant improvement of hypermenorrhea. A vaginal ultrasonography was carried out. The fibroid changed its position from FIGO 2-5 to FIGO 2. The patient was very satisfied with the result. After 2 months, she attended in our department again because of severe clear vaginal discharge. She had no bleeding, no pain as well as no fever. We examined her immediately. A fibroid expulsion was detected. The fibroid was removed vaginally. There was no severe bleeding during the operation and the fibroid could be removed completely. The surgery time was 25 minutes.

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Introduction

Fibroids are the most common type of benign uterine tumor, which occur up to 68.6% of women [1]. The prevalence of fibroids is age-dependent. Women between 40 and 50 years of age have 10-time higher risk for fibroids than women between 20 and 30 years of age [1]. Several symptoms can be caused by fibroids. Hypermenorrhea is the most common symptoms with a general prevalence of 40%-54%, followed by dysmenorrhea and low abdominal pain [2,3]. It has been reported, that 48% of women with fibroids and hypermenorrhea suffer from anemia [4]. Patients with symptoms need a therapy. While there are several treatments options for symptomatic uterine fibroids, ranging from medical intervention to hysterectomy, none meet the needs of all women with fibroids.

Transcervical fibroids ablation (TFA) was developed as a minimally invasive, incisionless treatment of fibroid in a short time. This method is safe and effective with excellent record of safety [5–8]. Especially, high risk patients can take advantage of this method [9]. Even large fibroids of ≥5 cm in diameter (up to 10 cm) may be safety treated with TFA [10].

Methods

Transcervical fibroid ablation has FDA (U.S. Food and Drug Administration) clearance for diagnostic intrauterine imaging and transcervical treatment of symptomatic uterine fibroids, including those associated with heavy menstrual bleeding. The system also has CE mark ("Conformité Européenne") in the European Union [8,11,12].

Transcervical fibroid ablation is to be performed by a gynecologist. The device is to be inserted intrauterine and has a small ultrasound component [13]. Usually, a general anesthesia is required for the TFA. The device is 8.3 mm in diameter. The penetration depth is less than 12 cm. Before the ablation the fibroid is determined sonographically with aid of graphical navigation. There are 2 graphical zones: green (safety zone) and red (ablation zone). After graphical visualization of fibroid, the ablation is carried out. In this phase, a safety zone guarantees no thermal injury in the surrounding organs (eg, bladder, bowel). This is especially important for transmural fibroids because of near localization to bladder and bowels, in regards to the uterus. The procedure allows for optimization of the ablated volume in the targeted fibroid. The measurements are registered graphically. The ablation time is 1-7 minutes depending on the fibroid size (the smallest size of fibroid is 2.0 × 1.3 cm). The temperature of the electrode is about 105^0C. This method does not cause a postablation syndrome. A good knowledge of vaginal ultrasonography and confidence in all other endoscopic fibroid therapies is required, because they can be used in combination with TRF as needed [13,14].

Fig. 1 – Vaginal ultrasonography. Preoperative image of fibroid.

Case presentation

We present the case of a 40-year-old woman, who attended in our fibroid excellence center. She reported severe hypermenorrhea and dysmenorrhea. Her family planning was definitely completed. Using vaginal ultrasonography a FIGO 2-5 fibroid of 5 cm was found (Fig. 1). Different treatment options were discussed: medical treatment, laparoscopic fibroidectomy, hysterectomy, and transcervical radiofrequency ablation with Sonata System. Because of advantages of transcer-

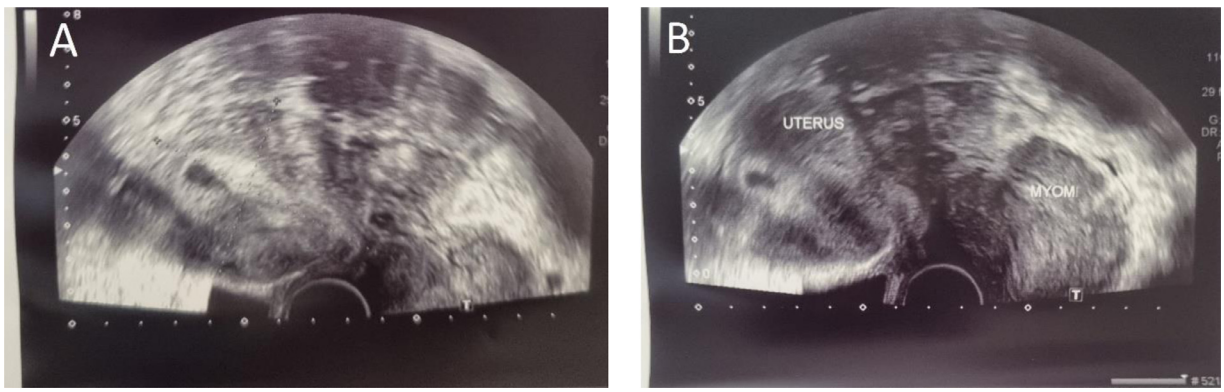

Fig. 2 – Vaginal ultrasonography. (A) Vaginal sonographic image of uterus free of fibroid. (B) Vaginal sonographic image of uterus and fibroid in the vagina.

Fig. 3 – Intraoperative image.

Fig. 4 – Intraoperative image.

vical radiofrequency ablation (minimal invasive treatment without incision, effectivity of method, short surgical time) the patient decided on this method. The operation was carried out as planned. Using the ultrasound probe, the fibroid was located and measured. The ablation of fibroid took place after insertion of a fixation needle and electrodes and setting up of a safety and an ablation zone. Three ablation steps were necessary: (1) 4:18 minutes, (2) 4:42 minutes, (3) 4:12 minutes. The fibroid could be ablated completely. At the end the submucosal part of the fibroid was resected by operative hysteroscopy. There were no complications, neither intraoperatively nor postoperatively. The patient was discharged in good health.

Three months later, the patient came for the first follow up. She reported significant improvement of her hypermenorrhea. A vaginal ultrasonography was performed. The fibroid had changed its position from FIGO 2-5 to FIGO 2. The patient was very satisfied with the result. After 2 months, she attended in our department again because of excessive clear vaginal discharge. She had no bleeding, no pain as well as no fever. We examined her immediately. A fibroid expulsion was detected. The vaginal ultrasound showed no fibroid in the uterine wall (Fig. 2A). Fibroid was partial in the vagina and partial in the cervix of the uterus (Fig. 2B). The fibroid was removed vaginally (Fig. 3). There was no severe bleeding during the operation and the fibroid could be removed completely (Figs. 4 and 5). The surgery time was 25 minutes. Histological examination showed a fibroid of 100 grams with regressive changes. The patient was discharged in good health.

Fig. 2 expelled fibroid in the vagina.

Fig. 3 vaginal removal of fibroid of 6 cm in diameter.

Fig. 4 end of the surgery. Unremarkable cervix.

Fig. 5 – Intraoperative image.

Discussion

In patients with symptomatic fibroids, treatment is required. The majority of these patients want to avoid a hysterectomy and prefer an organ preserving treatment [15]. There are

several minimally invasive and non-invasive methods to treat fibroids. Transcervical radiofrequency ablation with Sonata System enables a minimally invasive treatment without any incision, in a short time [13]. This method can be combined with operative hysteroscopy and is appropriated even for large fibroids [14,15]. The complication rate of transcervical radiofrequency ablation is very low [8–14].

Generally, expulsion of fibroid after treatment is not unusual. Mostly it occurs after uterine arteria embolization (UAE), treatment with gonadotropin-releasing hormone agonist and after Magnetic Resonance Imaging-guided High Intensity Focused Ultrasound Surgery [16,17]. The incidence rate of fibroid expulsion after UAE is up to 18% [17]. However, fibroid expulsion after TFA is very rare [18]. We could find only one publication related to the fibroid expulsion after TFA [18]. The risk is estimated at 1-1,5%, although the exactly data is still not available [18]. The most common symptoms of fibroid expulsion are vaginal bleeding, fever and the sensation of a mass being expelled vaginally, along with smelly discharge, as well as pain [19]. However, the patient can have only mild symptoms, like in our case. Usually, these fibroids can be easily removed vaginally without any complication even in case of large fibroids [20]. Therefore, the question remains: is it a complication or rather a benefit? On the one hand, patients can have bleeding and increased risk of infection; on the other hand, if fibroid is detected in time, it can be removed completely vaginally. The advantage is the complete removal even with large fibroids without incision. For this reason, the authors of this manuscript consider this case as a benefit, not a complication.

Conclusion

Transcervical radiofrequency ablation is a safe and effective method for treatment of fibroids. The complication rate is very low. The estimated risk for fibroid expulsion is 1%-1.5%. However, the patients have to be informed about this risk and related complications. For good result and in order to be able to avoid the complications, patients should attend in a hospital immediately. If fibroid expulsion occurs and the fibroid is removed vaginally in time, it can be considered as a benefit.

Authors' contribution

EP: manuscript writing, conception and design of the study data management, final approval of the submitted manuscript.
TR: project development, conception and design of the study, revising it critically for important intellectual content, final approval of the submitted manuscript.
EP and TR: contributed to patient care.

Patient consent

The patient has given the written consent, which can be uploaded if it is necessary.

Ethical approval

The patient has given the written consent for the publication of the report.

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