

## Myoma expulsion after uterine artery embolization

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**Abstract** Uterine artery embolization (UAE) has become a standard therapy in the treatment of symptomatic uterine myomas. The procedure is associated with a few complications. One of them is myoma expulsion. A 32-year-old woman was sent to our hospital with diagnosed intramural myoma with dysmenorrhea and pressure symptoms. UAE was performed since the patient preferred conservative treatment. The procedure was without any complications. Three weeks after embolization, she was readmitted because of vaginal discharge and minor bleeding. We diagnosed expulsion of necrotic myoma and performed transvaginal resection. Four months later, the patient is symptom free. Expulsion of intramural myoma can be thus considered as definite treatment and not a complication of embolization therapy.

**Keywords** Uterine myoma · Uterine artery embolization · Myoma expulsion

### Case

Myomas are the most common benign tumors of the uterus. Standard way of their treatment is surgical removal of the myoma or of the whole uterus. Since 1995, the spectrum of therapeutic options has been widened by uterine artery embolization (UAE). Ravina et al. [1] published their article with 16 patients after UAE with promising results. Today, UAE has become a common alternative therapeutic approach to surgical techniques of the removal of uterine myomas. The average volume shrinkage of the dominant myoma is between 43 and 89%. Symptoms caused by the myomas disappear in 86–94% of patients during 24 months [2]. In general, UAE is considered to be a safe method with low percent of complications. However, it is associated with some unwanted events. One of the complications is transcervical expulsion of the tumor [2]. This event occurs in 3–5% of patients. In most cases, it occurs up to 3 months after embolization [2, 3].

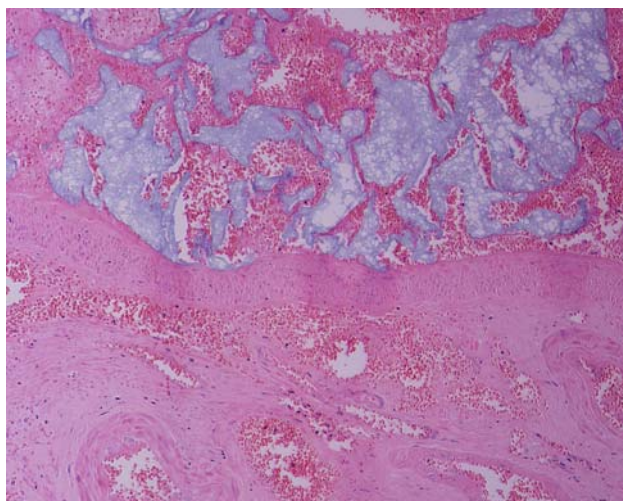
A 32-year-old patient, nulligravida, was sent to our clinic with the diagnosis of intramural myoma in the front uterine wall. The size of the tumor was  $4.5 \times 6.0 \times 5.3$  cm ( $78.88 \text{ cm}^3$ ). The patient had 2 years history of severe dysmenorrhea, metrorrhagia and frequent urinating. Repeated administration of Norethisteron for the period of 1 month did not release the bleeding. Because of the severe secondary anemia, we performed diagnostic and therapeutic hysteroscopy and curettage. The uterine cavity had regular shape with both ostiums of the fallopian tubes visible and free. The front wall of the uterine cavity was slightly cambered by the tumor. The histological examination of the material proved secretion endometrium in different stages of necrosis. The patient, after consultation, preferred conservative intervention. One month after curettage, we performed bilateral UAE. The approach was made through

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**Fig. 1** Polyvinylalcohol particles in vessels of necrotic fibroid

the right femoral artery. As embolizing material, we used polyvinylalcohol microparticles (PVA) with size of 300–500  $\mu\text{m}$ . We have performed superselective catheterization of the myoma. The procedure lasted 55 min and we did not experience any complications. For the analgesia, we administered the patient Pethidinium hydrochloride 100 mg intravenously in the continuous 500 ml saline infusion for 5 h. The patient experienced pain in the small pelvis lasting for 4.5 h with slow release. She was released from the hospital the next day. Three days after UAE, the patient reported minor spotting and mucous discharge in the amount of four pads per day that disappeared after 5 days. At 2 weeks, check up by ultrasound, we observed complete myoma devascularization and volume reduction to 62.40  $\text{cm}^3$  (79.11%). Perfusion of the healthy myometrium persisted unchanged. Three weeks after UAE, patient reported sudden onset of pressure feelings in the small pelvis and vagina without bleeding. Examination with specula revealed the top of necrotic myoma passing through the cervix with the

stalk of the tumor reaching to the uterine cavity. The patient was admitted to our clinic and under general anesthesia underwent ablation of nascent necrotic myoma. The torquation of the tumor was possible without any difficulties. The blood loss during the procedure was minimal. Histological examination proved necrotic myoma tissue with PVA microparticles present in the arteries of the tumor (Fig. 1). At the control ultrasound examination after 1 week there was no leiomyoma present in the uterus. Uterus had normal size, endometrium was 3 mm, regular without visible deformities. Two months after myoma expulsion, the patients were without symptoms with normal level of hemoglobin. She reported a complete regression of dysmenorrhea and hypermenorrhea. Four months after the expulsion she feels well and has no symptoms.

Expulsion of necrotic myoma is relatively common complication after UAE. It appears in 3–5% of patients [2, 3]. Necrotic tumor is gradually absorbed by surrounding myometrium or is expelled from the uterus [3]. The question is then, whether uterine myoma expulsion is a complication of the procedure or in fact acceleration of the healing process. All patients should be informed about this possible event.

**Conflict of interest statement** None.

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