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Case report

A case of severe uterine arteriovenous malformation treated with danazol followed by a transarterial embolization of unilateral uterine and ovarian arteries

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ABSTRACT

Uterine arteriovenous malformation (AVM) is a potentially life-threatening condition characterized by abrupt and profuse uterine bleeding from abnormal connections between arteries and veins in the myometrium. It is commonly associated with prior pregnancy or uterine trauma. We present a case of severe uterine AVM treated with danazol and transarterial embolization (TAE). A 38-year-old patient with a history of two abortions and a myomectomy was referred to our hospital for intermittent massive uterine bleeding. She was diagnosed with uterine AVM by transvaginal color Doppler ultrasonography and helical computed tomography (CT). Diagnostic three-dimensional CT (3D-CT) angiography clearly demonstrated hypervascular tangles of uterine vessels, feeding arteries, remarkably dilated draining veins, as well as early filling of the internal iliac vein and the inferior vena cava, indicating massive arteriovenous shunting in the uterus. Danazol was administrated for 10 months to reduce the shunting of the uterine AVM before TAE with N-butyl-cyanoacrylate of the left ovarian artery and left uterine artery was successfully performed. After the procedure, we confirmed that shunting through the uterine AVM was markedly reduced. The patient has not experienced any severe uterine bleeding since the treatment.

Introduction

Although uterine arteriovenous malformations (AVMs) are thought to be rare, the true incidence of this condition has not been documented in the literature. We recently performed a prospective study examining the incidence of uterine hypervascular lesions named ‘uterine vascular malformations’ (U-VM) including uterine AVMin patients after abortion, after delivery, and as outpatients for 2 years. During the study period while we were screening for UVMs, we observed one case of severe uterine AVM among ~1000 patients. The current report presents a detailed clinical course and clear diagnostic imaging of the case.

Case report

The patient is a 38-year-old gravida 2, para 0, abortus 2 woman. Her first pregnancy, which occurred 7 years previously, ended in spontaneous abortion during the early stages of pregnancy and did not require dilation and curettage (D&C). She also had undergone myomectomy 4 years previously. Based on magnetic resonance imaging (MRI) findings at the time, she was diagnosed with a uterine leiomyoma of ~6 cm in diameter in the posterior uterine body. Myomectomy was commenced with a laparoscopically assisted approach. The total intraoperative blood loss was 1330 mL and transfusion with 2 units of packed red blood cells was required. Post operative histopathological examination revealed a diagnosis of cellular leiomyoma of uterus. After the operation, a 1.88 μg monthly dose of a gonadotropin releasing hormone analogue (GnRHa), leuprorelin acetate, was administrated subcutaneously for 6 months. Two years later, the patient presented to our hospital with positive urinary pregnancy test. A gestational sac was confirmed to be in the uterine cavity but fetal heart movements

Conflicts of interest: The authors declare no conflicts of interest.

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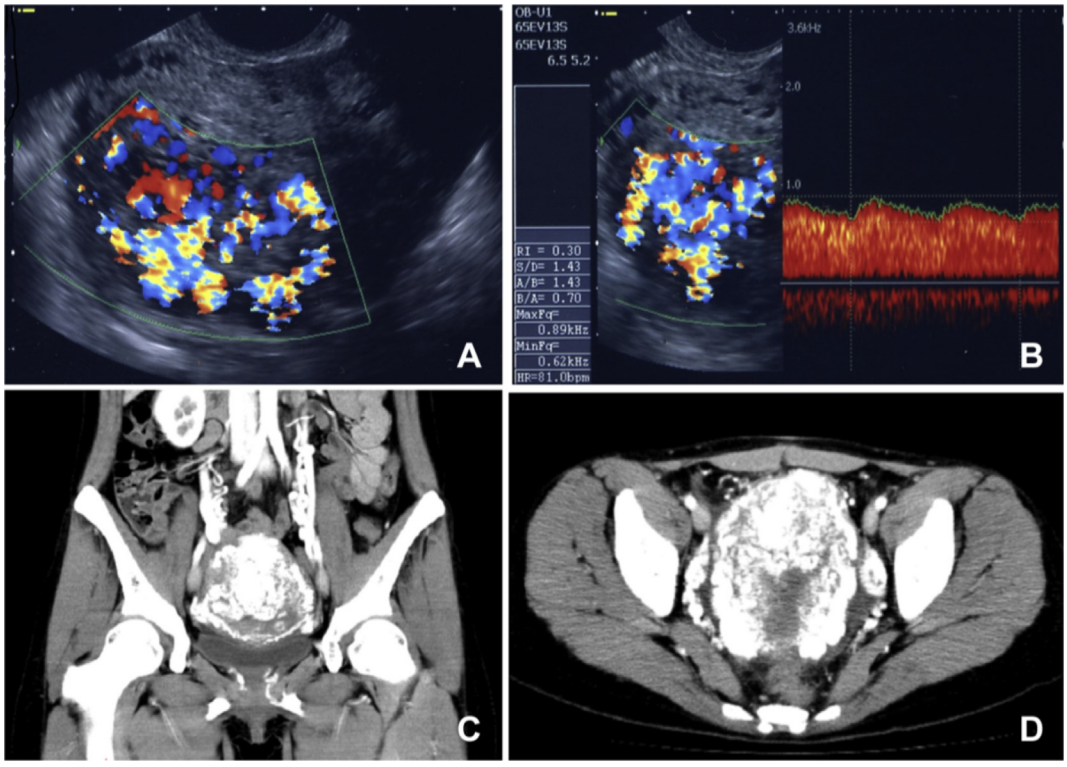

Figure 1. Color Doppler ultrasonography and enhanced CT. (A, B) Color Doppler ultrasonography demonstrated a hypervascular lesion of tortuous vessels with a colored mosaic pattern of irregular turbulent flow in the entire posterior myometrium; (C, D) enhanced CT demonstrated a highly enhanced effect in the posterior myometrium. CT ¼ computed tomography.