

Misdiagnosis of Intra-Uterine Fistula as Hydrosalpinx Post Embolization for a Uterine Myoma: What Went Wrong?

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Abstract

Objective: To report a case of intra-uterine fistula with continuous endometrial cavity liquid misdiagnosed as hydrosalpinx

Design: Case report.

Setting: ART Fertility Clinics, Abu Dhabi, United Arab Emirates.

Patient: A 38-year-old woman with an intra-uterine fistula after laparoscopic myomectomy and bilateral salpingectomy following a uterine artery embolization, leading to chronic presence of intracavitary liquid collection.

Materials and Methods: Informed consent was obtained from the patient to have her case published in a scientific journal.

Intervention(s): 3-D vaginal ultrasound.

Main Outcome Measure(s): Not applicable.

Result(s): Cancellation of multiple cycles of endometrial preparation for frozen embryo transfer due to endometrial cavity liquid even after bilateral salpingectomy.

Conclusion(s): Uterine fistula are rare and the diagnosis is challenging. One should always consider this etiology in patients with continuous endometrial cavity fluid after myomectomy and uterine artery embolization.

Keywords: Uterine Artery Embolization; Fistula; Myomectomy; Hydrosalpinx; Endometrial Cavity Liquid

Introduction

Uterine myomas are the most common benign tumors of the female genital tract affecting 20-40% of women during their reproductive years [1] with a peak incidence during early and mid-forty's. Uterine artery embolization (UAE) to treat uterine myoma as an alternative to or prior to myomectomy, was first performed by Ravina in 1995 [2]. Since then, the technique was widely developed and thousands of procedures were performed. However, like any other intervention, it is not without side effects and complications. Fortunately, most of the side effects are mild. Nevertheless, severe pain, fever and infection are quite common [3] and other rare but severe complications

were reported in the literature such as utero-vesical [4], utero-peritoneal [5] and intra-uterine fistula [6-9], deep venous thrombosis and pulmonary embolism, septicemia [3] and even death [10].

In this article, we shed the light on a case of intra-uterine fistula with endometrial cavity fluid misdiagnosed as hydrosalpinx and treated repetitively accordingly.

Case Report

A 38-year-old woman gravida 4 para 4 with 6 years of secondary infertility presented to our clinic suffering from continuous presence of endometrial cavity fluid on ultrasound during hormonal replacement therapy (HRT) for frozen embryo transfer (FET) in another facility. She has 3 vitrified euploid blastocysts from previous controlled ovarian stimulation (COS) cycles. Her history goes back to two years ago when she had UAE for a symptomatic 11*8 cm interstitial myoma (FIGO type4). A few months, after the embolisation, the patient started suffering from vaginal discharge for which she was treated with antibiotics but without any remarkable amelioration. Her physician decided to start her on HRT for FET. However, at each ultrasound assessment of the endometrium thickness, fluid was discovered in the cavity. Despite aspiration through an endo-uterine catheter, the fluid would appear few days later. Unfortunately, she was diagnosed as having hydrosalpinx and a laparoscopic bilateral salpingectomy and myomectomy for the residual myoma was performed one year after the embolisation, however but without any improvement. The patient underwent many attempts to transfer her embryos, yet each time the cycle was cancelled due to endometrial fluid collection. So, she was transferred to our clinic for a second opinion. And, while interrogating her, we suspected an intra-uterine fistula due to her past medical and surgical histories. The diagnosis was confirmed on 3-D vaginal ultrasound which showed a clear communication between a lateral interstitial cavity (i.e. the myoma site) and the uterine cavity (Figure 1).

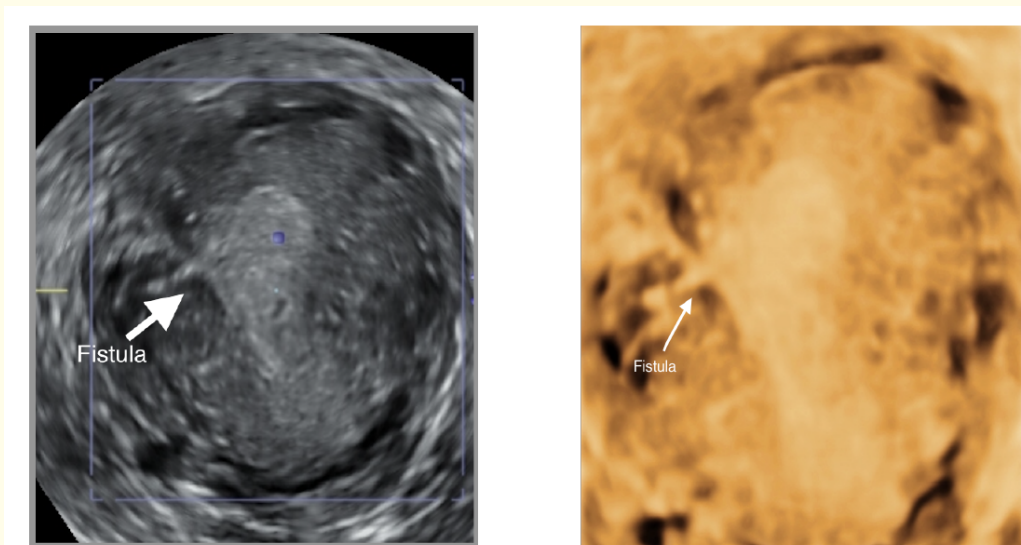


Figure 1: 3-D vaginal ultrasound showing a lateral communication between the uterine cavity and the operation site where the myoma was.

The patient was addressed to an experienced gynecologic surgeon for appropriate management before attempting any FET cycle. The inner orifice of the fistula was identified by hysteroscopy, the area surrounding it was resected and coagulated. Ultrasound scan performed one month later showed absence of intra-cavity fluid.

Discussion

Since its first description by Ravina, *et al.* in 1995, UAE has gained momentum and has been widely used and proved to be a safe and cost-effective alternative treatment to surgery when appropriately indicated. However, complications started to surface with more cases being performed. Although the majority were considered as acceptable side effects, more severe complications were noted as mentioned previously. In addition, the potential effect on fertility either by diminishing ovarian reserve or altering the normal proliferation of the endometrium, remains controversial [11]. In fact, The American [12], French [13] and Canadian [14] societies do not recommend UAE for women with desire to conceive.

Furthermore, in our case report we wanted to highlight the difficulty of diagnosis, the artifacts that may mislead the clinician into a wrong diagnosis and the importance of the 3-D ultrasound in identifying the fistula. Despite being very rare and only a few cases reported in the literature, appropriate diagnosis and management plan are needed especially in a patient with a desire to conceive. It is known that during the months that follow the embolization, necrotic tissue can be discharged through the uterine cavity and the vagina [15]. One must be aware of this event and not to jump into early conclusion. Furthermore, endometrial cavity fluid can be associated with subclinical uterine infection, can be generated physiologically by the genital tract or during ovarian stimulation especially in patients with an existing isthmocele [16]. But the most common diagnosis suspected and linked to deleterious reproductive effects is hydrosalpinx [17]. Nowadays, hydrosalpinx diagnosis can be made almost exclusively based on transvaginal ultrasound performed by an experienced professional [18] as well as different benign and congenital gynecologic conditions [19]. In our case, the patient was misdiagnosed as suffering from hydrosalpinx and treated accordingly. We can't be sure if the initial ultrasound operator was, on one hand, unaware of the potential complication of UAE and on the other hand, was also biased by the patient's clinical symptoms leading to an erroneous diagnosis of hydrosalpinx. Whereas when being evaluated by our team, we immediately suspected a communication between the site of the myoma and the uterine cavity and the 3-D vaginal ultrasound showed clear images of the fistula.

Conclusion

Our case draws attention to the diagnosis of fistula in case of endometrial cavity fluid following UAE and the importance of vaginal 3-D ultrasound. To our knowledge, a similar case has never been described before in the literature. Physicians and radiologists should be aware of such complications in order to limit misdiagnosis and inappropriate management.

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