

High intensity focused ultrasound for uterine myomas ablation: Is the treatment of choice for women seeking pregnancy?

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1 | COMMENTARY

In the study published on the current issue of this Journal, xxx et al.¹ evaluated the effects on ovarian function and subsequent pregnancy rate of uterine myomas ablation by high-intensity focused ultrasound (HIFU). Uterine myomas are the most common gynecologic tumors in women of reproductive age² and ultrasonography is usually the first-line imaging study performed in the workup of pelvic masses and may be integrated in selected cases with magnetic resonance (MR) to obtain a comprehensive map of the uterus and the size, site, and distribution of myomas, and to allow characterization of differential diagnosis of such masses.³ However, approximately 30% of women with myomas need treatment due to clinical symptoms.² At present, myomectomy is the main fertility-sparing treatment for uterine myomas. However, it has several disadvantages including a rate of intraoperative or postoperative complications, risk of bleeding and duration of hospital stay. Further surgery can cause pelvic adhesions that may cause infertility and increase the risk of uterine rupture in the middle and late period of gestation.⁴

Non- or minimally invasive techniques have been suggested as alternative approaches and they include uterine artery embolization (UAE) and HIFU.^{5,6} Both techniques have been applied to women planning a future pregnancy but there are evidences that women undergoing UAE had a significantly lower pregnancy rate than those undergoing HIFU ablation.^{7,8} As a consequence among currently available guidelines, the general opinion is that UAE should not be recommended in patients with future childbearing plans. Indeed, the American College of Obstetricians and Gynecologists suggests that UAE should be used with caution for patients who are actively seeking pregnancy.⁹

Although there are many reported cases of pregnancy after HIFU treatment with few obstetric complications, there is insufficient clinical evidence on the real impact of HIFU on fertility and

subsequent pregnancy.¹⁰ In particular little is known about ovarian reserve after HFU.^{11,12}

The importance of the study of XXX¹ is two-fold. First, they evaluated the effect of HIFU on ovarian function. They analyzed anti-Müllerian hormone (AMH), follicle-stimulating hormone (FSH), inhibin B (INHB), and antral follicle count (AFC) before the treatment and after 3, 6, and 12 months after treatment. They found a temporary reduction of ovarian reserve at 3 months with a significant increase of FSH concentrations associated with decreased AMH, INHB and AFC values. After 6 months hormonal and AFC values returned to pre-treatment levels. Second, they evaluated the occurrence of conception after the procedure and they reported a high rate of pregnancy, namely 64/80 (80%) of the women studied achieved at least one pregnancy. Further no evident increases of pregnancy complications were found in these women after controlling for confounding variables.

Although caution is necessary in the interpretation of data who were collected retrospectively and on small sample size cohorts, the available data suggest that HIFU is a safe and effective noninvasive therapy to treat uterine myomas in women who wish to retain the ability to conceive after treatment. However, before HIFU becomes the recommended treatment for uterine myomas in women planning a pregnancy in their future, large multicenter randomized trials are necessary to demonstrate its superiority of this technique over surgery.

CONFLICT OF INTEREST

The authors report no conflict of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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