Changes in Adenomyosis Following Elagolix vs Leuprolide Treatment in Patients with Pelvic Pain and Infertility

Mariam Barseghyan, MD MS[1], J. Graham Theisen, MD[2], Clara Wang, BA[2], Larisa Gavrilova-Jordan, MD[2]

1. Department of Obstetrics and Gynecology, MedStar Washington Hospital Center
2. Division of Reproductive Endocrinology, Infertility and Genetics, Medical College of Georgia at Augusta University

Background

Endometriosis is a common gynecologic condition that presents unique challenges to the treatment of reproductive age women. Adenomyosis, as a uterine form of endometriosis, poses additional difficulty in the management of infertile women. Severe pelvic pain and menorrhagia associated with these conditions are commonly managed with intramuscular Leuprolide injections. Elagolix is a novel oral alternative to Leuprolide that manages endometriosis associated pain and is progressively used in the United States. To date, the effect of Elagolix in improving fertility or for treating adenomyosis is unknown compared to the pre-treatment with injectable GnRH agonists prior to embryo transfer in assisted reproductive technology (ART).

Purpose

We present a clinical case of endometriosis in a patient who was managed with Elagolix, but had unexpected progression of adenomyosis, which subsequently improved with Leuprolide treatment.

Methods

A 34-year-old G1P0010 with laparoscopically confirmed severe endometriosis, secondary infertility and diminished ovarian reserve underwent fertility preservation with elective embryo cryopreservation to complete nursing school. She had three good quality blastocysts that were frozen. During her educational pause, her endometriosis related severe pelvic pain was successfully managed with the recently approved oral GnRH antagonist, Elagolix. After two years, she returned for procreative management with frozen embryo transfer. A uterine evaluation with saline sonohysterogram revealed surprising findings of diffuse adenomyosis and irregular endometrium. She was subsequently treated with the conventional regimen of Leuprolide 3.75 mg monthly injections for three months. The uterine evaluation following this revealed significant reduction in adenomyosis and normalization of the endometrium. The patient then underwent an elective single frozen embryo transfer.

Results

We demonstrate a clinical case of severe endometriosis, treated with Elagolix, with surprising concurrent progression of adenomyosis that improved with subsequent treatment with Leuprolide.

Conclusion

The efficacy of Elagolix in treatment of adenomyosis and infertility remains uncertain. Women's health providers should be aware that Elagolix may not prevent progression of adenomyosis as effectively as leuprolide acetate, particularly in infertility patient undergoing ART.