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MRI Evidence of Embryo Implantation Onto the Fibromuscular Uterine Septum

Jeris M. Cox, MD*, **Ryan J. Heitmann, DO**, **Tiffany Hailstorks, MD**, and **Alicia Y. Armstrong, MD, MHSCR**

Program in Reproductive and Adult Endocrinology, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland (Drs. Cox, Heitmann, and Armstrong), and Department of Obstetrics and Gynecology, Howard University School of Medicine, Washington, DC (Dr. Hailstorks)

A 30-year-old woman with history of 3 miscarriages and a known uterine septum was scheduled for hysteroscopic resection. Magnetic resonance imaging (MRI) during a previous pregnancy demonstrated a 1.9-cm muscular septum with a gestational sac implanted onto the septum superiorly (Fig. 1). The patient underwent dilation and curettage followed two months later by complete hysteroscopic septum resection (Fig. 2). She spontaneously conceived within 3 months after the surgery and is, as of this writing, in the third trimester.

Uterine septum accounts for 35% of all müllerian anomalies and is associated with a 40% to 60% risk of spontaneous miscarriage [1], with larger defects increasing this risk [2]. The postulated lack of blood supply to the fibrous septum makes it difficult for a pregnancy to continue once implantation has occurred [3]. MRI can be used to differentiate myometrial from fibrous uterine division and therefore is helpful in the diagnosis of the various uterine anomalies [4]. Hysteroscopic resection of the septum restores pregnancy outcome to near normal percentages [5]. To our knowledge, these are the first images that demonstrate an early uterine septum embryo implantation identified via MRI.

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Corresponding author: Jeris M. Cox, MD, Program in Reproductive and Adult Endocrinology, National Institute of Child Health and Development, National Institutes of Health, 10 CRC, Rm 1E-3140, 10 Center Dr, MSC 1109, Bethesda, MD 20892-1109. Jeris.Cox@nih.gov.

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Fig. 1.

Magnetic resonance image documents a 1.9-cm muscular septum (arrow) with a gestational sac implanted onto the fibromuscular septum superiorly. The sac, measuring $3 \times 2 \times 2.4$ cm, was surrounded by a $4.5 \times 2.2 \times 1.9$ -cm subchorionic hemorrhagic fluid collection.

Fig. 2.
Hysteroscopic resection of midline uterine septum, with right ostia (arrow) visualized.