

CLINICAL IMAGES

MRI of a twin pregnancy in a uterus bicornis unicollis

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A 30-year-old woman was seen at 24 weeks for a discrepancy between the symphysis-fundal height and the gestation by dates. Ultrasound examination revealed a twin pregnancy and showed the placentas to be implanted 'back-to-back' over what appeared to be a septum that extended from the uterine fundus to the cervix (Fig. 1). A bicornuate unicollis uterus was confirmed on MRI and revealed two divergent uterine horns separated by a deep fundal cleft, surrounded by myometrial tissue, containing a fetus within each horn (Fig. 2). A single cervix and vagina was visualised (Fig. 3), in keeping with a Class IVA Müllerian duct abnormality.¹ At 33 weeks, an emergency caesarean section delivery was performed via two separate classic incisions into each corpus.

A spectrum of congenital uterine malformations is attributed to the abnormal fusion of the pair of Müllerian ducts or failure of the absorption of the uterine septum;^{2,3} bicornuate uterus is the most common.³ Spontaneous twin gestation in a case of bicornuate uterus is rare. MRI is a valuable adjunct to sonar, which can be diagnostically limited in the third trimester. MRI assists in delineating external uterine contour, characterising septal composition, endometrial/myometrial ratio and defining the subtype of Müllerian duct anomalies.³ Deep uterine bifurcation causes myometrial distortion denying each corpus the full complement of musculature,



Fig. 1. Trans-abdominal ultrasound: 'back-to-back' implantation of placentas on either side of a septum extending down from the uterine fundus.

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Fig. 2. MRI: Two divergent uterine horns with a fetus within each horn. The horns are separated by a deep fundal cleft and surrounded by myometrial tissue; the dividing septum extends down to the internal cervical os.



Fig. 3. MRI demonstrating a common single cervix.

resulting in a higher incidence of reproductive loss, malpresentations, fetal dysmorphism, premature labour and perinatal morbidity and mortality as well as maternal death.²⁻⁴

MRI influenced management in our patient by characterising the uterine anatomy, so allowing proper surgical intervention and planning the future management of pregnancies.

1. The American Fertility Society classifications of adnexal adhesions, distal tubal occlusion, tubal occlusion secondary to tubal ligation, tubal pregnancies, müllerian anomalies and intrauterine adhesions. *Fertil Steril* 1988;49(6):944-955.
2. Arora M, Gupta N, Jindal N, Jindal S. Unique case of successful twin pregnancy after spontaneous conception in a patient with uterus bicornis unicollis. *Arch Gynecol Obstet* 2007;276(2):193-195.
3. Marten KVR, Funke M, Obenauer S, Baum F, Grabbe E. MRI in the evaluation of müllerian duct anomalies. *Journal of Clinical Imaging* 2003;27:346-350.
4. Barmat LI, Damario MA, Kowalik A, Kligman I, Davis OK, Rosenwaks Z. Twin gestation occupying separate horns of a bicornuate uterus after in-vitro fertilization and embryo transfer. *Hum Reprod* 1996;11(10):2316-2318.