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HYSTEROTOMY FOR HAND PROLAPSE IN AN ANOMALOUS UTERUS WITH UNEXPECTED INTRAOPERATIVE FINDINGS: A CASE REPORT

Obstetrics & Gynaecology

Archie Desai* M.S Obstetrics & Gyaecology, Fellowship In Reproductive Endocrinology, Department of Obstetrics and Gynaecology, Vydehi Institute of Medical Sciences & Research Centre, Bengaluru, Karnataka, India*Corresponding Author

Jaikumar Patel M.D General Medicine, Department of General Medicine, MM Institute of Medical Sciences and Research, Mullana, Ambala – 133207, Haryana, India

ABSTRACT

Background: Congenital Müllerian anomalies are associated with adverse obstetric outcomes including malpresentation, mid-trimester loss, and operative delivery. Malpresentation requiring surgical intervention in the mid-trimester is exceedingly rare, particularly in the context of a bicornuate uterus.**Case Presentation:** A 27-year-old primigravida at 23 weeks of gestation with a known bicornuate uterus presented with intermittent abdominal pain and a prolapsed fetal hand for 6 hours. Examination revealed a 6 cm dilated cervix, absent membranes, and cord prolapse with no pulsations, confirming intrauterine fetal demise (IUFD). Hysterotomy was performed under spinal anaesthesia. Intraoperative findings included confirmed bicornuate uterus, tortuous vessels on the anterior uterine surface, a macerated male fetus weighing 490 grams, foul-smelling contents in the left cornua, and adherence of the left fallopian tube fimbria to the posterior uterine wall.**Conclusion:** In mid-trimester IUFD with transverse lie, the mechanism of Conduplicato Corpore, which typically permits vaginal delivery, was precluded by the incoordinate uterine action inherent to the bicornuate anomaly. Hysterotomy was therefore unavoidable. This case highlights the importance of early detection and counselling of patients with Müllerian anomalies and demonstrates a rare concurrence of faulty uterine power and compromised fetal passenger necessitating surgical evacuation.

KEYWORDS

Bicornuate Uterus; Hand Prolapse; Hysterotomy; Conduplicato Corpore; Müllerian Anomaly; Intrauterine Fetal Demise; Malpresentation

INTRODUCTION

Congenital uterine anomalies arise from abnormal formation or incomplete resorption of the Müllerian (paramesonephric) ducts during fetal development. Their reported incidence ranges from 1–10% in the general unselected population and approximately 2% in fertile women, with the bicornuate uterus representing one of the most commonly encountered subtypes [1]. Women with Müllerian anomalies face a significantly elevated risk of adverse pregnancy outcomes, including spontaneous abortions, preterm labour, malpresentation, and caesarean delivery [1].

Mid-trimester intervention for malpresentation in the setting of a Müllerian anomaly is exceptionally rare. In the normal course of events, a small fetus in transverse lie may deliver vaginally via a mechanism termed 'Conduplicato Corpore,' wherein the fetus doubles upon itself and is expelled through a sufficiently large pelvis [2]. However, this mechanism depends critically on coordinated uterine contractility. When the uterus is structurally anomalous, this coordinated action may fail, rendering vaginal delivery impossible and surgical intervention necessary.

We report a rare case of mid-trimester hand prolapse with cord prolapse in a primigravida with a bicornuate uterus, complicated by intrauterine fetal demise and several unexpected intraoperative findings, in which hysterotomy was the only viable management option.

CASE REPORT

A 27-year-old primigravida at 23 weeks of gestation, with a history of spontaneous conception and a pre-existing diagnosis of bicornuate uterus, presented to the emergency department with intermittent abdominal pain of 12 hours' duration and a visible fetal part per vaginum for the preceding 6 hours. The patient had attended her first antenatal visit at 18 weeks of gestation; her booking ultrasonogram (performed on 5 April 2021) had reported a single intrauterine gestation of 18 weeks and 4 days in cephalic presentation, with the placenta in the upper uterine segment, adequate liquor, and an estimated foetal weight of 221 grams. Notably, the sonographic report had characterised the uterine morphology as consistent with uterine didelphys, with implantation in the left cornua — a finding that would later be clarified at surgery.

On presentation, general condition was fair and vital signs were stable. Abdominal examination revealed a uterus corresponding to approximately 20 weeks of gestational size. A fetal hand was visible at the introitus. Per vaginum examination demonstrated a cervix 6 cm dilated, with absent membranes and no liquor draining. A prolapsed fetal arm and hand were present in the vaginal canal, accompanied by cord prolapse; cord pulsations were absent, confirming intrauterine fetal demise.

In view of the established mid-trimester IUFD, transverse lie with hand prolapse, incompletely dilated cervix, and absence of membranes, a clinical decision was made to proceed with hysterotomy under spinal anaesthesia. Informed written consent was obtained from the patient.

Intraoperatively, a bicornuate uterus was confirmed, clarifying the prior ultrasonographic description of uterine didelphys. Implantation had occurred in the left cornua, which was exteriorised and found to contain foul-smelling contents, indicative of prolonged fetal demise. Notably, tortuous vessels were identified on the anterior surface of the uterus. An unexpected finding was the adherence of the left fallopian tube fimbria to the posterior uterine wall — a previously unrecognised anatomical aberration in this patient. A dead, male, macerated abortus weighing 490 grams was delivered, with the prolapsed hand exhibiting skin peeling consistent with prolonged intrauterine death. The postoperative period was uneventful, and the patient was discharged in stable condition.

DISCUSSION

Bicornuate uterus, while not substantially impairing fertility, is consistently associated with adverse pregnancy outcomes including second-trimester miscarriages, malpresentations, and increased rates of operative delivery [1]. The anomaly frequently remains asymptomatic until pregnancy, and is often first detected on routine antenatal ultrasonography. In the case described by Borgohain et al [2], a patient in her second pregnancy had a normal first pregnancy with an undetected uterine anomaly; the bicornuate uterus was identified at 8 weeks in the subsequent gestation, and the patient delivered by caesarean for persistent breech at 39 weeks. By contrast, our patient, a primigravida, had her anomaly detected only at 18 weeks — her first antenatal scan — and subsequently presented with the far graver combination of malpresentation and mid-trimester IUFD.

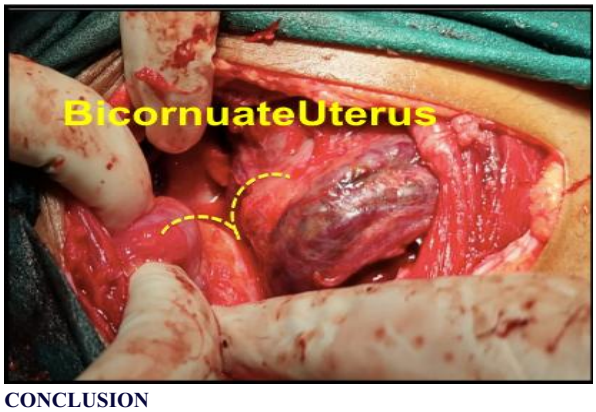
A clinically significant discrepancy in the present case was the initial ultrasonographic characterisation of the uterus as 'uterine didelphys,' while intraoperative findings confirmed a bicornuate uterus. This reflects the well-documented limitation of two-dimensional ultrasonography in accurately differentiating between Müllerian anomaly subtypes — particularly in the second trimester, when the gravid uterus makes assessment more challenging. Three-dimensional

ultrasonography or MRI, when feasible, provides superior delineation of uterine morphology and should be considered when the subtype of anomaly has potential management implications.

The fundamental clinical dilemma in this case centred on the mode of delivery. In a transverse lie with a small fetus, the physiological mechanism of Conduplicato Corpore — in which the fetus folds upon itself and is expelled vaginally — represents an exception to the conventional rule that transverse lie mandates caesarean section. However, this mechanism is predicated on coordinated, effective uterine contractions. An anomalous uterus with structural disproportion between its horns generates incoordinate uterine action, as likely occurred in the present case. The concurrent presence of a macerated IUFD, which loses the normal musculoskeletal rigidity required for the duplicating mechanism, further precluded this pathway. This case thus illustrates a rare but important principle: when both the 'power' (uterine contractility) and the 'passenger' (fetal condition) are simultaneously compromised, vaginal delivery in transverse lie becomes mechanically impossible.

Hillman et al [3] reported successful management of a 17+4-week fetal demise in a non-communicating rudimentary horn by hysterotomy, a case necessitated by the inability to access the horn vaginally. In our case, despite the presence of a communicating horn, the late presentation with established fetal demise and an inadequately dilated cervix rendered hysterotomy equally unavoidable. Singhal et al [4] similarly encountered unusual intraoperative anatomical configurations in the setting of Müllerian anomalies, reinforcing that such cases must be approached with surgical preparedness for unexpected findings.

The additional intraoperative findings in the present case — tortuous anterior uterine vessels and fimbrial adhesion of the left fallopian tube to the posterior uterine wall — are attributable to the chronic anatomical distortion imposed by the bicornuate configuration, compounded by the likely intraperitoneal inflammatory response from the prolonged, macerated intrauterine fetal demise.



CONCLUSION

This case illustrates a rare and complex obstetric emergency in which a bicornuate uterus, mid-trimester IUFD, hand prolapse, and several unexpected intraoperative anatomical findings converged to necessitate hysterotomy. The failure of Conduplicato Corpore — the expected mechanism of vaginal delivery in this scenario — was attributable to the incoordinate uterine action of the anomalous uterus combined with the softened, macerated state of the fetus. Clinicians should be aware that the standard obstetric principles governing management of transverse lie and malpresentation may be overridden in the setting of Müllerian anomalies. Early and accurate antenatal identification of uterine anomalies, ideally with confirmatory 3D ultrasonography or MRI, remains essential for appropriate patient counselling and anticipatory management planning.

COMPARISON WITH REPORTED CASES

S.No	Author / Year	Study Findings	Present Case
1	Borgohain et al, 2018 [2]	Gravida 2; first pregnancy uneventful with undetected anomaly; second pregnancy revealed bicornuate uterus at 8 weeks, persistent breech, delivered by caesarean at term.	Primigravida; uterine anomaly detected at 18 weeks on first antenatal USG; presented with hand prolapse and mid-trimester IUFD.
2	Hillman et al, 2015 [3]	17+4 weeks; non-communicating rudimentary horn; fetal demise managed by hysterotomy.	23+4 weeks; communicating horn (bicornuate); fetal demise managed by hysterotomy due to late presentation.
3	Chan et al, 2011 [1]	Systematic review (n=3,805): arcuate, didelphys, and bicornuate uteri associated with second-trimester miscarriages and malpresentation.	Consistent finding: malpresentation (hand prolapse) and second-trimester fetal demise in a bicornuate uterus.
4	Singhal et al, 2003 [4]	Primigravida with bicornuate uterus; fetal demise managed by hysterotomy; unusual intraoperative anatomical configuration noted.	Similarly, hysterotomy performed with several unexpected intraoperative findings including tortuous vessels and fallopian tube adhesion.

AUTHOR CONTRIBUTIONS

Archie Desai: Concept, design, clinical management, literature search, manuscript preparation, manuscript review, Clinical studies, data acquisition.

Jaikumar Patel: Literature search, data analysis, manuscript editing.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest with respect to the research, authorship, or publication of this article.

PATIENT CONSENT

Written informed consent was obtained from the patient for publication of this case report. All patient identifiers have been appropriately anonymised. Ethical principles consistent with the Declaration of Helsinki have been followed.

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