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Case Series

Pregnancy outcomes in laterally implanted pregnancies: a case series

Ashika Kathar Masthan^{1*}, Gigi Selvan², Salome Pritha³

¹Department of Obstetrics and Gynaecology, Hiba Women's Clinic and Pregnancy Care, Tirunelveli, Tamil Nadu, India

²Department of Obstetrics and Gynaecology and Sonology, Annai Velankanni Multi Speciality Hospital, Tirunelveli, Tamil Nadu, India

³Department of Radiology, Rio Scan and Labs Pvt. Ltd., Tirunelveli, Tamil Nadu, India

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*Correspondence:

Dr. Ashika Kathar Masthan,

E-mail: ashika.kathar@gmail.com

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ABSTRACT

Laterally implanted pregnancy refers to a pregnancy implanted in the upper lateral part of the uterine cavity medial to the uterotubal junction. It is a variation of a normal intrauterine pregnancy, requiring careful monitoring. This case series describes the clinical presentation, ultrasonographic features, and reproductive outcomes of eight patients diagnosed with laterally implanted pregnancy confirmed on 3D ultrasonography over two years from November 2021 to December 2023. Our findings highlight the importance of diligent follow-up due to the increased incidence of early pregnancy complications, including anembryonic pregnancy, missed abortion, and progression to partial interstitial pregnancy.

Keywords: Laterally implanted pregnancy, 3D ultrasonography, Intrauterine pregnancy, Early pregnancy complications, Interstitial pregnancy

INTRODUCTION

Laterally implanted intrauterine pregnancy is an eutopic pregnancy but is associated with a high incidence of early pregnancy complications such as bleeding, anembryonic pregnancy, missed abortion, and progression to partial interstitial pregnancy.^{1,2}

Unlike interstitial pregnancies, which necessitate immediate termination due to the risk of rupture and maternal morbidity, laterally implanted pregnancies require close monitoring.^{3,4} Precise imaging through 3D ultrasonography is crucial for effective diagnosis and appropriate management.^{5,6}

CASE SERIES

This is a retrospective case series of eight patients diagnosed with laterally implanted pregnancy at our institution between November 2021 and December 2023. The diagnosis was confirmed using three-dimensional ultrasonography (3D USG).

Patient data collection

Patient data were collected retrospectively and included age, parity, gestational age by last menstrual period (LMP), presenting complaints (e.g., brownish discharge, bleeding, pain abdomen), beta hCG trends, ultrasound findings (e.g., normal, deep arcuate uterus, arcuate uterus), gestational sac size, cardiac activity, follow-up USG diagnosis, migration to central intrauterine (yes/no), management (e.g., medical methods, LSCS, USG guided feticide, surgical method), subsequent pregnancy location, and subsequent pregnancy outcome. Data were anonymized, and no identifiable patient information was used.

Management approaches

Management approaches included medical interventions, surgical procedures, and close follow-up with ultrasound imaging, tailored to the individual patient's presentation and progression.

The outcomes for the eight pregnancies analysed were as follows: live intrauterine pregnancy: 2 cases (25%), missed abortion: 2 cases (25%), anembryonic pregnancy: 3 cases (37.5%), and partial interstitial pregnancy: 1 case (12.5%). Detailed clinical and ultrasonographic features, follow-up, and outcomes for each case are summarized in Table 1.

Figures 1a-c displays a series of 2D and 3D ultrasonography images demonstrating a laterally implanted pregnancy that progressed to a missed abortion. Figures 1d-f shows follow-up images confirming the diagnosis of missed abortion.

Table 1: Summary of clinical and ultrasonographic parameters, follow-up, and outcomes for eight cases of laterally implanted pregnancy.

Case	Age	Parity	GA	Compl -aints	β- hCG ↑ (48H)	USG 3D	Follow- up USG	Migrat -ion to central intraut -erine	Manag -ement	Subsequ -ent preg. location	Subseque -nt pregnancy outcome
1	26	Primi	5w6d	Browni -sh dis- charge	17.48%	Normal	Missed abortion	No	Medica -l met- hods	Intrauteri -ne viable	Due for delivery
2	26	Primi	6w3d	Bleedi- ng, clots	57.60%	Deep arcuate uterus	Anembryo -onic pr- egnancy	No	Medica -l met- hods	Intrauteri -ne anembryo -onic	Anembryo -nic preg- nancy
3	26	G3A2	5w3d	Bleedi- ng PV	Not availa -ble	Normal	Intrauteri -ne viable	Yes	LSCS	Intrauteri -ne viable	Repeat LSCS
4	26	Primi	5w2d	Bleedi- ng PV	29.30%	Normal	Partial interstiti- al preg- nancy	Partial interstit -ial	USG- guided feticide	Intrauteri -ne viable	LSCS
5	22	Primi	4w6d	No compla -ints	Not availa -ble	Deep arcuate uterus	Missed abortion	No	Surgica -l method	Intrauteri -ne viable	LSCS
6	27	Primi	6w5d	Spotti- ng PV	Not availa -ble	Normal	Anembryo -onic pr- egnancy	No	Medica -l met- hods	Laterally implant- ed	Anembryo -nic pregnancy
7	32	Primi -post abort al	6w	Pain abdom- en	314	Normal	Anembryo -onic pregnan- cy remained as a retained product	No	Medica -l method methotr -exate	Embryo transfer planned	Awaited
8	30	G2A1	5w6d	No compla -ints	Not done	Arcuate uterus	Intrauteri -ne viable	Yes	Healthy ongoi- ng pregn- ancy	Not applica- ble	Not applicable

Figures 2a-c presents 2D and 3D ultrasonography images of a laterally implanted pregnancy. Figures 2d-f illustrates the progression to an anembryonic pregnancy, with an arrow indicating the gestational sac without a discernible embryo.

Figures 3a-c shows initial 2D and 3D ultrasonography images of a laterally implanted pregnancy. Figures 3d-f

demonstrates the successful progression to a viable intrauterine pregnancy with clear visualization of the embryo and cardiac activity.

Figure 4 displays multiple 2D and 3D ultrasonography images related to case 4, showing the initial laterally implanted pregnancy and its progression to a partial interstitial pregnancy. It also indicates the management via

ultrasound-guided feticide and subsequent expulsion of products vaginally.

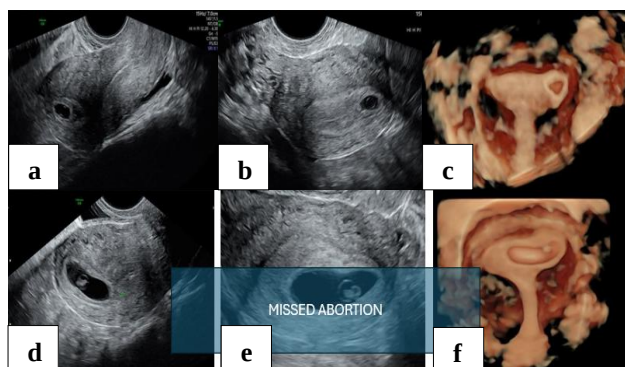


Figure 1 (a-f): Missed abortion.

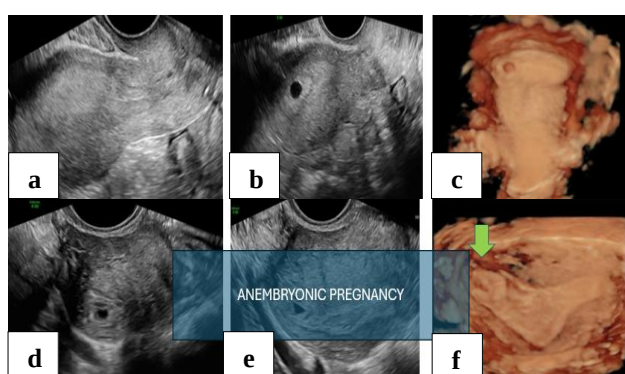


Figure 2 (a-f): Anembryonic pregnancy.

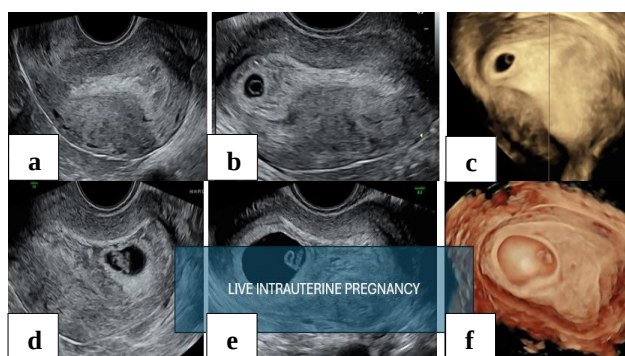


Figure 3 (a-f): Live intrauterine pregnancy.

Figure 5 presents 2D and 3D ultrasonography images for case 5, showing the initial laterally implanted pregnancy and its subsequent diagnosis as a missed abortion.

Figure 6 displays a series of 2D and 3D ultrasonography images for case 8, illustrating the initial laterally implanted pregnancy and its favourable progression to a healthy ongoing intrauterine pregnancy.

Figure 7 provides additional 2D ultrasonography images from a follow-up, clearly showing a live intrauterine pregnancy, from one of the successful cases.

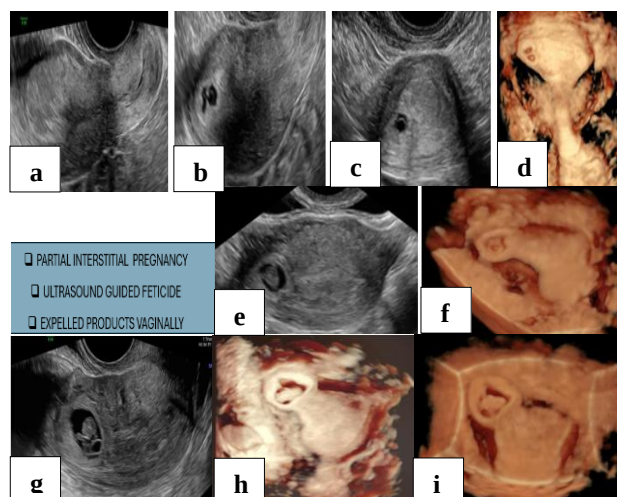


Figure 4 (a-i): Partial interstitial pregnancy.

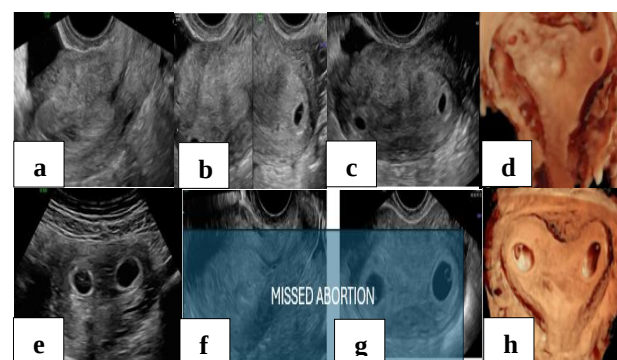


Figure 5 (a-h): Missed abortion (case 5).

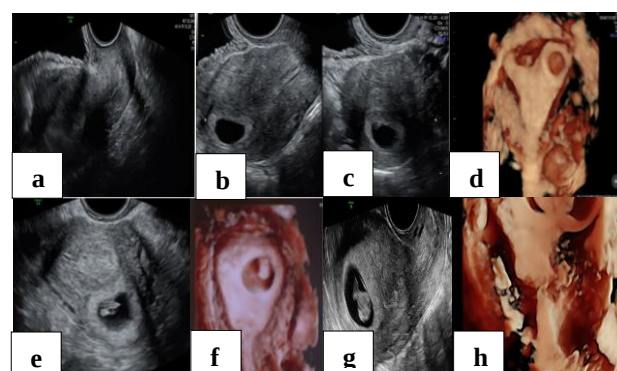


Figure 6 (a-h): Case 8 - healthy ongoing pregnancy.



Figure 7: Live intrauterine pregnancy (follow-up).

DISCUSSION

Laterally implanted pregnancies are eutopic but present unique clinical challenges due to their location near the uterotubal junction. Laterally implanted pregnancies are eutopic but present unique clinical challenges due to their proximity to the uterotubal junction. According to ESHRE Guidelines, the term angular pregnancy that was in use before, has been abandoned.^{1,2} These pregnancies can mimic interstitial pregnancies and thus carry a risk of misdiagnosis.^{2,4,6} They are associated with a higher risk of early pregnancy complications including anembryonic pregnancy and missed abortion, as seen in our series.⁵ Correct differentiation between interstitial and laterally implanted pregnancies is critical because the former carries a risk of rupture and requires more aggressive treatment.^{4,5} The "interstitial line sign" and 3D ultrasonography are essential tools in making this distinction.^{4,6}

In our series, one patient progressed to a partial interstitial pregnancy, which was diagnosed early and managed with ultrasound-guided feticide and expectant expulsion—minimizing complications. Another notable observation was a case with recurrent lateral implantation, suggesting a potential anatomical predisposition such as a uterine anomaly (e.g., arcuate uterus), which has been noted in previous literature as a possible contributing factor.^{6,7}

This series further supports previous findings that pregnancies implanted laterally, while still intrauterine, should be approached cautiously with serial imaging and patient counselling.^{2,6,7} The patients carry a higher risk of early pregnancy complications, including anembryonic pregnancies and missed abortions. Differentiating them from interstitial pregnancies is critical, as the latter requires immediate intervention. In this series, 3D USG was pivotal in the diagnosis and follow-up, confirming intrauterine location and distinguishing from interstitial pregnancies.⁸ Notably, one case showed recurrent lateral implantation, suggesting a possible anatomical predisposition. Further research into anatomical and physiological factors is warranted to better understand and manage these cases. The progression to partial interstitial pregnancy in one case highlights the importance of vigilant monitoring, as early identification allowed for successful management with minimal intervention.

CONCLUSION

Laterally implanted intrauterine pregnancies require vigilant monitoring and follow-up due to their high rate of

complications. Accurate diagnosis via 3D ultrasonography is essential to distinguish them from more critical pathologies like interstitial pregnancies. Early detection, patient counselling, and appropriate intervention significantly influence reproductive outcomes.

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REFERENCES

1. ESHRE Working Group on Ectopic Pregnancy; Kirk E, Ankum P, Jakab A, Le Clef N, Ludwin A, Small R, et al. Terminology for describing normally sited and ectopic pregnancies on ultrasound: ESHRE recommendations for good practice. Hum Reprod Open. 2020;2020(4).
2. Finlinson AR, Bollig KJ, Schust DJ. Differentiating pregnancies near the uterotubal junction (angular, cornual, and interstitial): a review and recommendations. Fertil Res Pract. 2020;6:8.
3. Jermy K, Thomas J, Doo A, Bourne T. The conservative management of interstitial pregnancy. BJOG. 2004;111(11):1283-8.
4. Ackerman TE, Levi CS, Dashefsky SM, Holt SC, Lindsay DJ. Interstitial line: sonographic finding in interstitial (cornual) ectopic pregnancy. Radiology. 1993;189(1):83-7.
5. Timor-Tritsch IE, Monteagudo A, Sharma S. The diagnosis, treatment, and follow-up of interstitial pregnancies. Am J Obstet Gynecol. 2020;222(3):275-81.
6. Ludwin A, Pitynski K, Ludwin I. Diagnosis of angular pregnancy with 2D and 3D ultrasonography and successful expectant management. Ultrasound Obstet Gynecol. 2016;47(2):245-7.
7. Rizk B, Holliday CP, Tsay C. Pathophysiology and management of abnormal implantation. Fertil Steril. 2020;114(5):881-92.
8. Jurkovic D, Mavrellos D. Catch me if you can: ultrasound diagnosis of ectopic pregnancy. Ultrasound Obstet Gynecol. 2007;30(1):1-7.

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