Comprehensive Understanding of Bilobed Placenta - A Case based integrative obstetric perspective

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ABSTRACT

Aim: Developing a comprehensive understanding on the reare placental variation ie. Bilobed placenta, and to establish an integrative obstetric perspective on the condition backed by a case study.

Case description: This study is backed on a case study of 25-year-old primigravida with bilobate placenta, confirmed to have two distinct anterior and posterior extension as observed on sonography, the baby was delivered through normal vaginal delivery however the patient suffered mild post-partum hemorrhage which was managed successfully leaving both mother and newborn safe and healthy. **Conclusion:** Concluding the case-based analysis of this clinical condition an understanding was established on the formation of bilobed placenta based on Classical ayurvedic principles. **Clinical significance:** This case provides a road map to analyze the causes of formation of bilobed placenta taking in consideration the Classical Ayurvedic principles described in various Samhitas , a principle backed discussion on the effect of *Vata dosha* in the *prakrut* or physiological *apara* or placenta formation and the effects of its vitiation causing rare placental anomalies like bilobed placenta was observed and analyzed clinically. Discussion surrounding the specific effects of various *gunas* of *Vata* and their manifestations in the form of placenta bipartita was also assessed.

KEYWORDS; Placenta, bilobed, Vata, Apana, sonography, vitiation

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INTRODUCTION

Bilobed placenta or placenta bipartita is counted amongst one of the rare enlisted placental variations where the placental organ is divided into two lobes separated by segment of membrane however with same foetal circulation with usually a larger lobe cord insertion or a velamentous cord insertion, with an incidence rate of 2- 8 % of all pregnancies. This condition is associated with risk factors of major obstetric significance including Vasa previa, postpartum hemorrhage, velamentous cord insertion etc.

PATIENT INFORMATION

25-year-old pregnant women (primigravida) with LMP of 05.04.2025 came for regular ANC follow ups. Her third trimester obstetric sonography suggested, “Single live intrauterine foetus of GA 35 weeks 5 days in vertex presentation, AFI 11 cm, FHS 157 bpm, left lateral placenta with two lobes one anterior and one posterior, mid part appearing thin”.

Patient was having mild labour pains since 10.00 pm (21.01.26)

No relevant medical , psychological and family history pertaining to this condition was found.

No significant past interventions and outcomes were seen.

CLINICAL FINDINGS

And other routine laboratory investigation findings being Haemoglobin 9.8g /dl, RBS 95 mg/dl, A+ve blood group and viral markers (HIV I & II, VDRL , HBsAg) being non-reactive

On physical examination it was found that abdomen was soft , uterus was term size with mild contractions present , cephalic (engaged) presentation , FHS of 132/min , cervix partially ripe and os dilated by 3-4 cm .

TIMELINE

EVENT	TIME & DATE
Sonography Suggestive of bilobed placenta	11.12.25
Onset of pain in abdomen and back	10.00 pm , 21.01.26
Admission to hospital	02.36 am, 22.01.26
Consent signed by family	03.10 am , 22.01.26

Male child delivered through normal vaginal delivery	09.05 am , 22.01.26
Bilobed placenta delivery	09.15 am , 22.01.26

DIAGNOSTIC ASSESSMENT

Ultrasonography was used as the major diagnostic approachfor this case, with below images clearly depicting bilobed placenta with two distinct anterior and posterior extensions of the placental mass.

A major diagnostic challenge was to confirm the presence of bilobed placenta in order to adequately diagnose and manage the condition.

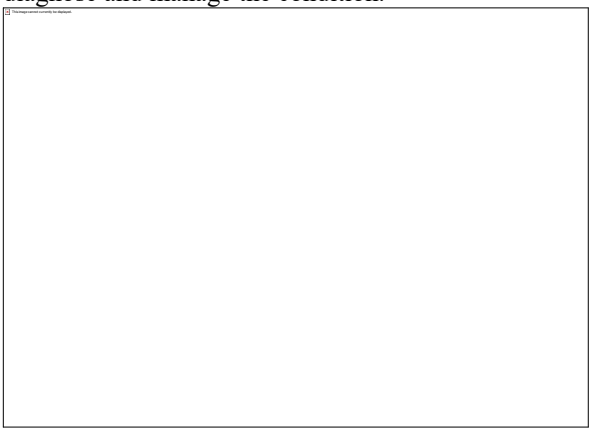

Fig.1A - Sonography of the presented case showing distinct anterior and posterior placental lobes.

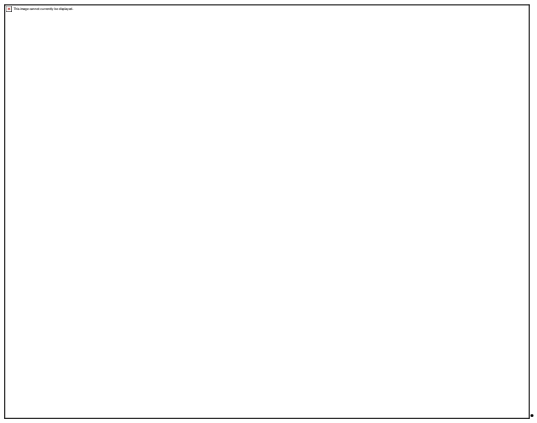

Fig 1B - visible bilobed placenta bipartita seen in ultrasonography

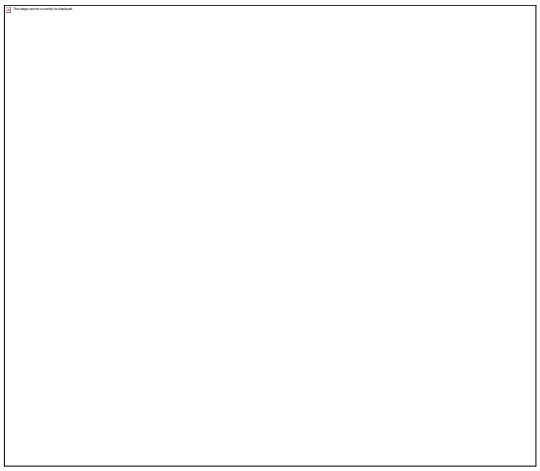

fig 2A - Real image of the obtained placenta post placental delivery at 9.15 AM, showing distinct two placental lobes and a thin membrane in between as suggested by the last sonography

Both the mother and the child were completely healthy post delivery and till 48 hours of observation in the hospital suggesting a healthy prognosis for the condition.

THERAPEUTIC INTERVENTION

The delivery took place on 22/01/26, 09:05 AM. Mediolateral episiotomy was performed delivering a male child of weight 3.05 kg, height- 45 cm, head circumference- 35 cm. Followed by Bilobed placenta delivery at 9.15 AM, following mild PPH which was controlled subsequently with bimanual massage and oxytocin, episiotomy was repaired in layers with catgut.

Mother was advised with oral medication for establishing normal uterine health (*garbhashaya shudhi*), strength (*bal*) , pain management (*Vata shaman* and *vedana sthapan*),etc.

DRUG ADVISED	DOSAGE	REFERENCE
Prataplankeshwar Ras	*250mg /BID*	*Yogratnakar stree roga Chikitsa*
dashmool kwath	*20ml/BID*	*Bhaisajya ratnavali kasa roga Adhikar*
Saubhagyashunthipak	*3g/BID*	*Bhaisajya ratnavali stree roga Adhikar*

● Daily dressing of episiotomy was also advised with Jatyadi taila.

FOLLOW-UP AND OUTCOME

a male child of weight 3.05 kg, height- 45 cm, head circumference- 35 cm was delivered. As routine, keeping the baby warm, cord care, eye care, early and exclusive breastfeeding, regular immunization and Kaumarbhritya (Pediatric) consultation was advised for the baby.

Standardized protocol for mother's care was followed including watching for any excessive bleeding P/V and vitals like blood pressure, pulse rate, temperature Monitoring.

Mother had pulse of 76/min, BP of 136/80 mm Hg, present pallor, normal temperature, abdomen soft and uterus well contracted. Bleeding per vagina was observed normal after 1hr of delivery.

DISCUSSION

Bilobed placenta is a morphological placental variation characterized by two nearly equal lobes connected by membranous tissue, with umbilical cord insertion either central or eccentric. Placental variation like this has been associated with obstetric complications such as vasa previa, antepartum hemorrhage, retained placental tissue, and postpartum hemorrhage. Understanding its etiopathogenesis and outcomes through both modern medical science and classical Ayurvedic principles provides a more holistic perspective on placental development and fetal–maternal health.

Placental development begins with trophoblastic invasion and differentiation during early implantation. Bilobed placenta is believed to arise due to localized disturbances in decidualization or uterine vascularity. Abnormal uterine blood flow, prior uterine surgery, fibroids, or assisted reproductive techniques have been implicated as contributing factors.

Another proposed mechanism involves uneven chorionic villous proliferation, where placental tissue expands preferentially in areas of better perfusion, resulting in two dominant lobes rather than a single placental mass.

Placenta corresponds conceptually to *Apara*, which is considered essential for fetal nourishment and stability. Formation of *Apara* occurs as a result of *Avrodh* in *artavaha strotas* during gestational amenorrhea where due to *avrodha artava* moves upward and forms *apara*.

Any disturbance in *Apana Vata* ie. responsible for movement of *artava* in the *strotas* may lead to disturbance in *apara* formation as well as placental delivery and related complications like vasa previa APH, PPH, etc.

Bilobed placenta can be interpreted as a manifestation of *Dosha Vaishamya,* particularly involving *Vata* . *Vata* is said to be responsible for division, movement, and structural differentiation, when functions of the *panchmahabhuta in garbha nirman* is defined. When vitiated (*Vata Prakopa*), may lead to abnormal segmentation or irregular formation of placental tissue.

Gṛhītagarbhaṇāmārtavavahānāṃ srotasāṃ vartmānyavarudhyante garbheṇa, tasmādgṛhītagarbhaṇāmārtavaṃ na dṛśyate; tatastadadhaḥ pratihatamūrdhvamāgatamaparaṃ copacīyamānamaparetyabhidhīyate.....
(Su.sha4/24)

Śukraśoṇitaṃ garbhāśayasthamātmaprakṛtivikārasammūrcchitaṃ 'garbha' ityucyate | taṃ cetanāvasthitaṃ vāyurvibhajati.....
(*Su.sha. 5/3*)
Taṃ vāyurvibhajati doṣadhātumalāṅgapratyaṅgavibhāgena.....
(Nibandh Sangrah teeka in Su.sha 5/3)

Bilobed placenta may be interpreted as a manifestation of *Vata* vitiation, especially *Chala* (mobility) guna aggravated by *vikrut*/vitiated *Vata dosha*, leading to uneven distribution and division of placental tissue. Disturbed *Apana Vata* can result in abnormal implantation patterns or fragmented development of *Apara* correlated subsequently with bilobed placenta .

Classical Ayurvedic texts emphasize that defects in *Beeja, Beeja-Bhaga, or Beeja-Bhagavayava* ie. Genetic constituents, can result in abnormal organogenesis. Bilobed placenta formation may reflect subtle disturbances during early gestation prior to *apara* formation influenced by maternal diet (*Ahara*), lifestyle (*Vihara*), mental stress (*Manasika Bhava*), pre-existing uterine factors (*Kshetra Dushti*) and earlier discussed genetic factors.

Disturbed *Apana Vata*, which is governing placental separation and expulsion, may explain the increased risk of retained placental tissue and postpartum complications. An integrative interpretation suggests that bilobed placenta reflects both structural and functional disbalance both according to ayurvedic classical principles involving *Vata Dosa vikruti* and causes like improper vascularity to the uterus as found described in contemporary science. Modern imaging modalities such as ultrasonography and color Doppler enable early diagnosis, while Ayurvedic antenatal care principles taking in account *Garbhini Paricharya, Vata-pacifying diet, stress reduction, and Rasayana therapy* and all treatment as well as lifestyle modalities are suggestible and may support optimal placental function and pregnancy outcomes.

Avoidance of consumption of *Vata* vitiating *ahara-vihara ie. Katu , tikta , kashay , ruksha , sheet ahara* and avoidance of heavy exercises, running, *raatrijagran* (late night sleeping patterns) and other *Vata dosha* vitiating lifestyle patterns during the early days of pregnancy may also help in managing and reducing the probable chances of development of bilobed placenta.

CONCLUSION

Bilobed placenta represents a clinically relevant placental variation with multifactorial origins. While contemporary science explains its development through altered implantation and vascular patterns, Ayurveda offers a complementary understanding rooted in *Dosha* imbalance, *Dhatu* nourishment, lifestyle corrections and mental health . Integrating these perspectives not only enriches theoretical understanding but also enhance preventive strategies and individualized antenatal , intranatal and postnatal management of outcomes.

PATIENT PERSPECTIVE

Patient was greatly satisfied and happy with treatment modalities followed and as also thankful for delivering her with a healthy child in midst of all the chaos that lied around after the diagnosis of this condition.

INFORMED CONSENT

Taking in account the rarity of this placental variation in pregnancy a written consent was orated to the patient and her family which was later duly signed by her husband at 03.10 am of 22.01.26 , citing that they have been informed about the clinical condition and the outcomes it may carry with itself, and they are willing for delivery in this hospital cited above and be prepared for any unforeseen situation if arises.

Consent is a very vital part in cases like these that involve great risk.

FURTHUR SCOPE OF RESEARCH

Further interdisciplinary research correlating Ayurvedic constitutional factors (*Prakruti*), *Dosha* status, and placental morphology with modern biomarkers may provide valuable insights into predictive and preventive obstetric care.

Morphological Assessment of placenta post partum may also help understand the *doshas* involved by the interpretation of *gunas* and *prakrut- vikrut lakshanas* / symptoms involved. Thus, providing a better understanding towards the developmental causes of this condition.

Integrative approach towards the management of such condition and others like this backed by proper understanding of its etiopathogenesis both by the means of classical ayurvedic principles as well as modern obstetric modalities may prove beneficial towards healthy outcomes of such pregnancy for both mother and child.

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