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RESEARCH ARTICLE

THORACO-OMPHALOPAGUS CONJOINED TWINS: CASE REPORT

Khalid Guelzim, Yassine Bouhtouri, Saad Benali and Jaouad Kouach
Gynecology-Obstetrics Department Military Training Hospital Mohammed V Rabat Morocco.

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Abstract

Conjoined twins are an extremely rare form of monozygotic twinning, with an estimated incidence of between 1 in 100,000 and 1 in 250,000 live births, and are rarely encountered by obstetricians. Prompt diagnosis and management are essential, as around 70% of conjoined twins die within 48 hours of birth or present with lethal congenital malformations. We report the case of a thoraco-omphalopagus twin pregnancy terminated at 13 weeks amenorrhea.

Introduction:-

Conjoined twins are an extremely rare form of monozygotic twinning, with an estimated incidence of between 1 in 100,000 and 1 in 250,000 live births, and are rarely encountered by obstetricians [1].Many of these pregnancies do not reach a viable gestational age, either through miscarriage or elective termination [2-3].Prompt diagnosis and management are essential, as around 70% of conjoined twins die within 48 hours of birth or develop lethal congenital malformations [4]. We report the case of a thoraco-omphalopagus twin pregnancy terminated at 13 weeks' amenorrhea.

Case report

A 26-year-old, first-time pregnant patient without significant risk factors or exposure to teratogen products during pregnancy or pregestation with no notable medical history or family history of congenital anomalies.She came to our hospital for management of her pregnancy at 13 weeks' amenorrhea.The biological workup was without anomalies, but an ultrasound revealed significant abnormalities: Monochorionic twin pregnancy with a single umbilical cord connecting the conjoined twins from the thorax to the umbilical region, with no cardiac activity for either twin.no other ultrasound-visible malformations (figure 1).After medical treatment: expulsion of both fetuses (figure 2).

Discussion:-

Conjoined twins are defined as two genetically identical individuals linked to each other in utero. The etiology remains uncertain and controversial, with several theories proposed, including fission of a single fertilized egg or fusion of two distinct embryos from the same ovum [5].Conjoined twins are not a recent discovery; they were already evoked in ancient times through various interpretations, often steeped in myth.Historical accounts highlight moral dilemmas, mythological legends and cases of public exposure.

Teratology pioneer IsidoreGeoffroy Saint-Hilaire classified conjoined twins according to their common anatomy.He used prefixes of Greek origin associated with the suffix pagus, meaning “fixed”, to designate the various forms of conjoined twins:

Corresponding Author:- Khalid Guelzim
Address:- Gynecology-Obstetrics Department Military Training Hospital Mohammed V Rabat Morocco.

Figure 1:- Ultrasound revealed thoracoomphalopagus conjoined twins.

Figure 2:- Thoracoomphalopagus conjoined twins.

Craniopagus:
These twins are linked by the skull (head), making them "conjoined heads" in simple terms. Their skulls may be totally fused, and they often share some brain tissue. Surgical separation of these cases is particularly complex, due to the delicate and intricate nature of the neurological structures involved.

Omphalopagus or Xiphopagus:
These twins are connected at the umbilical region. They may share abdominal organs, such as the liver or intestines. Surgical separation is usually feasible, and the prognosis is often the most favorable of the conjoined twin types.

Thoracopagus:
These twins are connected at the level of the thoracic cavity, and often share vital structures such as the heart, lungs and other organs located in the thorax. This type of connection makes surgical separation extremely complex, especially when the heart is involved.

Ischiopagus:
These twins are connected at the lower edges of the coccyx and sacrum, yet have two distinct spinal columns. They may also share pelvic organs.

Pygopagus:
These twins are connected by the lateral and posterior surfaces of the coccyx and sacrum.

Early diagnosis of conjoined twins is made possible by high-resolution transvaginal ultrasound, performed as early as the first trimester during prenatal follow-up. This diagnosis can be confirmed by complementary imaging techniques, such as magnetic resonance imaging (MRI), which provides more detailed and precise clinical anatomical data [6-7]. A complete anatomical study of the fetus between 18 and 20 weeks of age enables a diagnosis to be made in patients who have not had a fetal ultrasound in the first trimester [8].When a case of conjoined twins is detected by ultrasound (USG), fetal echocardiography should be performed, regardless of the site of fusion. This is justified by the increased incidence of cardiac malformations in monozygotic twins, with shared cardiac anatomy often associated with a poor prognosis [8]. Pregnancy management options, including elective termination and expectant management, need to be carefully considered and thoroughly discussed [9].

Conclusion:-

Gestation of conjoined twins is a rare event that presents particular complexity for obstetric management, whatever the patient's goals of care. However, early diagnosis, with good prediction of associated anomalies, would enable decisions to be taken more rapidly. The role of obstetricians in prenatal diagnosis, counseling and organization of interdisciplinary medical care is essential for the management of cases of conjoined twins.

Ethics approval:
Our institution does not require ethical approval for reporting individual cases or case series.

Patient consent:
Written informed consent was obtained from legally authorized representative(s) for anonymized patient information to be published in this article.

References:-

[1] O.M. Mutchinick, L. Luna-Mu˜noz, E. Amar, et al., Conjoined twins: a worldwide collaborative epidemiological study of the International Clearinghouse for Birth Defects Surveillance and Research, Am. J. Med. Genet. C Semin. Med. Genet. 157C (4) (2011) 274–287.
[2] H. Rode, A.G. Fieggen, R.A. Brown, et al., Four decades of conjoined twins at Red Cross Children's Hospital–lessons learned, S. Afr. Med. J. 96 (9 Pt 2) (2006) 931–940.
[3] P. O'Brien, M. Nugent, A. Khalil, Prenatal diagnosis and obstetric management, Semin. Pediatr. Surg. 24 (5) (2015) 203–206
[4] B.A. Willobee, M. Mulder, E.A. Perez, et al., Predictors of in-hospital mortality in newborn conjoined twins, Surgery 166 (5) (2019) 854–860, https://doi.org/ 10.1016/j.surg.2019.06.028.
[5] Mohammad SA, AbouZeid AA, Ahmed KA, et al. Postnatal imaging of conjoined twins: a customized multimodality approach. PediatrRadiol 2023;53:2291–304.
[6] E. Pajkrt, E. Jauniaux, First-trimester diagnosis of conjoined twins, Prenat. Diagn.25 (9) (2005) 820–826.
[7] C.A. Kingston, K. McHugh, J. Kumaradevan, E.M. Kiely, L. Spitz, Imaging in the preoperative assessment of conjoined twins, Radiographics 21 (5) (2001) 1187–1208.
[8] L. Spitz, Conjoined twins, Prenat. Diagn. 25 (9) (2005) 814–819.
[9] A. Thomas, K. Johnson, F.X. Placencia, An ethically-justifiable, practical approach to decision-making surrounding conjoined-twin separation, Semin. Perinatol. 42 (6) (2018) 381–385.