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CASE REPORTS

Antenatal Sonographic Diagnosis of Craniopagus Parasiticus: A Rare Entity

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Abstract:
Craniopagus Parasiticus, an extremely rare disease, has an incidence of 4-6 cases in 10 million. Here one embryo develops fully with extreme growth retardation of the other one. Ultrasound of a 38 year old female showed a single gestational sac with two cranium joined together and a solitary trunk.

Key words: *Craniopagus Parasiticus, ultrasonography.*

Introduction:
Craniopagus Parasiticus (CP) is an extremely rare condition with an incidence of approximately four to six cases in 10,000,000 live births where parasitic twin head with an maldeveloped body is conjoined to the head of the developed one.[1] In this condition, the dominant embryo develops fully, while the other embryo's development is extremely restricted due to lack of blood supply to the second twin and fails to separate the single zygote during the second or fourth week of gestation.[2]

Case Report:

- A 38-year female, 6th gravida with 18 weeks of amenorrhea with per-vaginal bleeding for one day was referred for sonographic assessment.
- She had Two healthy children with history of three induced abortion without any significant previous medical or surgical comorbidity.

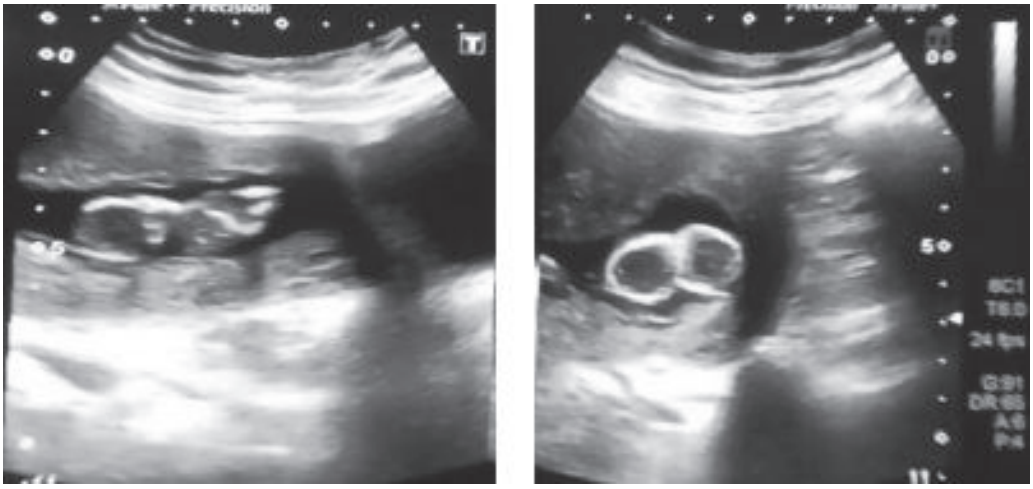

Fig-1: *Sonographic finding of Craniopagus Parasiticus (a) One head with trunk of the formed fetus and (b) Two (2) Heads joined together.*

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- Ultrasound revealed gravid uterus having single gestational sac with two cranium like structure joined together with the left temporo-parietal area of main cranium with single trunk or the formed fetus. Bi-parietal diameter (BPD)-1 & BPD-2 measured 17.6 mm & 17.2 mm which

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corresponded respectively to 12 weeks 5 days & 12 weeks 04 days of pregnancy. CRL measured about 43.5 mm corresponding to 11 weeks 01 day pregnancy which were much less than the period of gestation. Amniotic fluid was less in amount with single posterior placenta. Cardiac pulsation and fetal movement were absent.

- Patient had undergone medical termination as advised by the obstetrician.

Discussion:

Etiology of Craniopagus Parasiticus (CP) has not been identified. There are some hypotheses as 'fission theory' where development of two fetuses from one zygote in the second week of gestation occur with incomplete separation at their cranial ends, leading to Craniopagus Parasiticus (CP). On the other hand, CP can result from the abnormal fusion of two separate embryos at the anterior open neuropore, at the end of the fourth week of gestation. Another hypothesis is lack of blood supply to the second twin, brought about by the degeneration of the umbilical cord, thereby preventing the development of the fetus.[1,2]

CP twins share the same chorion, amnion, and placenta.[3] Male sex predominance was reported in previous cases in this type of conjoined twins. But in this case, sex determination could not be done. The parasitic head may be fused with its sibling at the level of the vertex, forehead, or the side of the head. In the case we have reported, the parasitic head was attached at the left temporal area of the formed fetus.

Only two cases of CP antenatally diagnosed by USG screening were reported.[4] One of them ended in IUD and another pregnancy was terminated medically two days after diagnosis in view of bad prognosis. Early detection of this condition is desirable since termination of pregnancy is a therapeutic option before 24 weeks of gestation. If CP is diagnosed later, Caesarean delivery remains the only option because of cephalo-pelvic disproportion. This early diagnosis of this case at 12+ weeks of gestation helped obstetrician to take the prompt decision for termination of pregnancy due to absence of cardiac pulsation.

Conclusion:

Early gestational age evaluation can help to plan future management and improve the prognosis and survival in this rare condition. Also, to take decision regarding continuation of pregnancy with other associated congenital defects.

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