

A Rare Case of Prenatally Detected Craniopagus Twin

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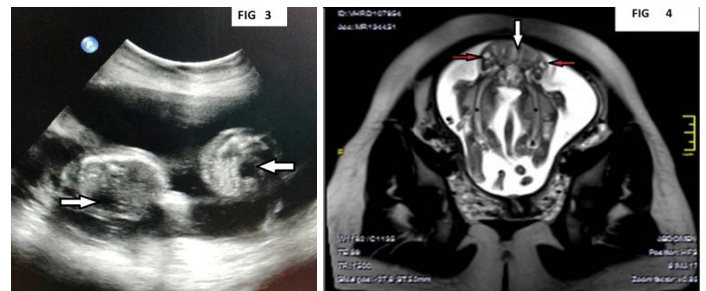
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Conjoined twins are the most extreme form of twinning, occurring in about 1% of monozygotic twins with incidence of about 1 in 50,000 to 1 in 100,000 births [1]. However 60% are still born or die shortly after, the true incidence is around 1 in 200,000 live births [1]. Magnetic Resonance Imaging (MRI) with its advantages over Ultrasonography is a better modality in correlating the Ultrasonography Findings and helping the patients decide the future course of management. We present a case of Craniopagus twins which was prenatally detected at 19 wk gestation using Ultrasonography and correlated with MRI and eventually aborted as per the wishes of the mother. A 24-year-old woman, Gravida two, Para one, living one visited our Department for routine antenatal ultrasound at 19 wk gestation. Ultrasonographic findings revealed: Twin live intrauterine gestation of about 19 wk, four days with fusion of heads of the two fetuses with a single skull, fused brains with separate lateral ventricles, common posterior fossa and elongated single cerebellum two separate thoraces with two contracting cardia, normal appearing spines, trunks with four limbs each [Table/Fig-1-3]. Ultrasound diagnosis of Conjoined twins (craniopagus) was made. MRI findings confirmed and corroborated with the Ultrasonographic findings [Table/Fig-4]. Plain Radiograph of the mother's abdomen was performed (left posterior oblique view) which showed a two fetuses with a single cranium and two spines [Table/Fig-5]. A diagnosis of conjoined twins Craniopagus with vertical and temporo-parietal fusion was made. After proper counseling, patient opted for termination of pregnancy. Postdelivery foetal and placental specimen confirmed ultrasound and MRI findings [Table/Fig-6,7].

The role of radiologist can be divided into antenatal and postnatal preoperative assessment. The antenatal diagnosis of conjoined twins can be made with ultrasonography (US) as early as 12 wk gestation and is important for optimal obstetric management [2]. The prenatal diagnosis maybe suspected and confirmed if two fetuses cannot be visualized separately in a single gestational sac. Bifid appearance of the first trimester foetal pole, presence of more



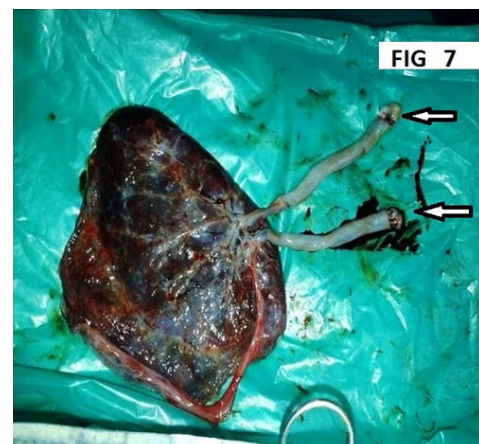
[Table/Fig-1]: Axial grey scale ultrasound images of Head of the conjoined twins of gestation 19 weeks 4 days showing fusion of heads of the two fetuses with a single skull with fused brains (White arrows with black outline) but with separate lateral ventricles (LV), common posterior fossa (Large white arrow with red outline) and elongated single cerebellum. **[Table/Fig-2]:** Axial grey scale ultrasound image of thorax of the conjoined twins of gestation 19 weeks 4 days showing two thoraces with separate contracting cardia (White Arrows with black outline)



[Table/Fig-3]: Axial grey scale ultrasound image of abdomen of the conjoined twins of gestation 19 weeks 4 days showing two separate abdomens with separate urinary bladders (White Arrows with black outline). **[Table/Fig-4]:** T2 Haste FETAL MRI coronal image showing fusion of heads of the two fetuses with single skull (White arrow with black outline), orbits of the Craniopagus twins (Red arrows) and two separate spines (Asterisks)



[Table/Fig-5]: Plain radiograph of the mother's abdomen (left posterior oblique view) showing single cranium (Large white arrow) with spines of both fetuses (4 pointed stars) **[Table/Fig-6]:** Post delivery fetal specimen showing Craniopagus twins fused on the medial side (White arrow with black outline)



[Table/Fig-7]: Placental specimen showing one placenta with 2 cords (White arrows with black outline)

Embryonic aspect	Type	Incidence	Primordium	Extent of Union	Separability
Ventral (87%)	-----	-----	-----	-----	-----
Rostral (48%)	Cephalopagus Thoracopagus Omphalopagus	11% 19% 18%	Oropharyngeal membrane Heart Diaphragm	Top of head to umbilicus Thorax, upper abdomen, Conjoined heart Thorax, upper abdomen, Separate hearts	None Rare Likely 82% Success
Caudal (11%)	Ischiopagus	11%	Cloacal membrane	Lower abdomen, genitourinary tract	Likely 63% success
Lateral	Parapagus	28%	Cloacal membrane (2 Notochords?)	Pelvis, variable trunk, diprosopus 2faces, dicephalus 2heads	Rare
Dorsal (13%)	Craniopagus Rachipagus Pygopagus	5% 2% 6%	Cranial neuropore Neural tube (mid-portion) Caudal neuropore	Cranial vault Vertebral column Sacrum	Unlikely without sequelae None reported Likely 68% Success

[Table/Fig-8]: Embryologic classification of Conjoined Twins [3]

than three umbilical cord vessels, persistence of heads at the same level and body plane, and failure of the fetuses to change position relative to each other overtime are other sonographic features that assist in making the diagnosis [4].

An attempt to classify conjoined twins according to the site of conjunction and its surgical prognosis is tabulated below [Table/Fig-8] [4].

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