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Research Paper

A Case of Dicephalus Conjoined Male Twins

Medical Science

KEYWORDS : Bicephalus, Siamese twins, Goosecoid gene.

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ABSTRACT

Dicephalus is a very rare congenital anomaly of twin fetuses. It is defined as two faces with conjoined head where neck and trunk are fused, with one set of reproductive organs and one vertebral column; the thoracic cage may or may not be fused. Among museum specimens we found a male fetus of 28 to 30 weeks of gestational age with two heads, single trunk, two upper limbs and two lower limbs. The specimen was studied by radiology. X-ray examination revealed single trunk with two vertebral columns, two thoracic cages and single sacral and pelvic regions. Literature data suggest that this type of anomaly is highly unusual, male dicephalus dipus dibrachius being especially rare and the survival rate is poor.

CASE REPORT: During the collection of the museum specimens in Anatomy department of Sri Devaraj Urs Medical College a dicephalus male fetus of around 28-30 weeks of gestational age w w as observed, which was preserved in a formalin jar showed in figure no 1.

Figure 1: A collection of Anatomy Museum Specimen with A case of Dicephalus Male Fetus (Bicephalus Male Fetus)

X-ray film has been taken at the Radiology Department with a Siemens (Berlin, Germany) machine. Besides two heads, the results showed two vertebral columns, two thoracic cages, and total fusion of the pelvic region including the sacrum, but having two upper and two lower limbs explained in figure no 2.

Figure 2: An AP view of X-ray film showing 2 heads, with 2 vertebral columns and a pelvis.

DISCUSSION: Dicephalus twins are less than 0.5% of all reported cases. In that 70-95% was females [1]. The Incidence of dicephalus twins are 1 in 50,000 to 1 in 200,000 births [2].The cases of dicephalus twins recorded from 1959 to 2010 were only 48 [3]. Tiwari et al., observed a female case of dicephalic parapagus tribrachius. On radiological and ultrasound examination they found two skulls, two vertebral columns with ribs bridging the two columns, four clavicles, four scapulae, three upper limbs (two normal and the third one rudimentary and located on the back), one, broad ribcage, two breasts, two separate sacra, one, slightly broad pelvis, two lower limbs, one diaphragm, two hearts, one liver and one umbilical cord [4]. Mehmet et al. reported a case with two heads, two arms, two feet and one pelvis. On radiological examination they also observed two vertebral columns which were fused at the level of pelvis [5]. Basing on embryology there were two mechanisms taken into consideration: cleavage and fusion [3]. Based on prominent site of fusion, twins are classified as thoracopagus accounts for 40% of conjoined twins, omphalopagus for 33%, pyopagus for 19%, and ischiopagus for 6% and craniopagus for 2% [6]. According to Yasemin et al., "Two monovular embryonic discs may lie adjacent to one another at various angles, and may become secondarily united rostrally, caudally, laterally or dorsally and symmetrically or asymmetrically but always homologously" [7]. The type of twins formed depends on when and how extended abnormalities of primitive node and streak occurred. Misexpression of genes such as Goosecoid results in conjoined twins [8].

CONFLICT OF INTEREST: There is no conflict of interest.

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