

Fetiform Sacrococcygeal Teratoma- In A Newborn A Case Report

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Abstract : Teratoma comprised of mixed elements derived from the three germ cell layers. Sacrococcygeal teratoma is the most common congenital neoplasm in neonates. Fetiform teratoma is a rare but distinct entity characterized by presence of more organoid differentiation than the classical teratoma but not enough to classify as fetus in fetu. We report here in a case of 37 weeks old newborn baby girl delivered by normal vaginal route. The baby presented with a large soft cystic mass over sacrococcygeal region. Radiological examination show an extrapelvic soft tissue mass with variegated appearance. Complete excision of mass was done. On gross examination cut section show variegated appearance with presence of a rudimentary limb. Microscopic examination revealed the mass to be a mature sacrococcygeal teratoma. Mature sacrococcygeal teratoma appears to be entirely benign during neonatal period. Complete surgical excision remains the mainstay of treatment.

Keywords - Fetiform teratoma, Germ cell layer, Mature sacrococcygeal teratoma, Organoid differentiation, surgical excision.

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I. Introduction:

Teratoma derived from the greek word “teratos” which literally means “monster”. The ending “oma” denotes a neoplasm. Teratoma comprised of mixed elements derived from three germ cell layers. They attract attention because of their gross appearance and bizarre histology. Sacrococcygeal region is the most common location, less common sites are mediastinum, gonads, retroperitoneum, vagina, brain, stomach [1]. Sacrococcygeal teratoma is the most common congenital tumor in newborn reported in approximate 1/35,000 to 1/40,000 live births and have female predominance 4:1 [2]. They are believed to arise early in gestation from totipotential cells of hensen’s node, remnant of the primitive streak in coccygeal region [3]. Sacrococcygeal teratoma may be classified as benign (mature), malignant (immature) . Sometimes mature sacrococcygeal teratoma can be highly differentiated , fetiform teratoma showing organoid arrangement of tissues. A fetiform teratoma is a rare variant of mature teratoma that include one or more component resembling malformed fetus. It should be differentiated from fetus in fetu whose diagnosis require presence of spine and bilateral symmetry [4]. These lesions forms a spectrum of anomalies with no clear cut distinguishing feature. Here, we have the opportunity to report a case of mature sacrococcygeal fetiform teratoma in a baby girl.

II. Case Report:

A newborn girl, weighing 3600gm was delivered at 37 weeks by vaginal route to a 28 years old mother and she was not a booked case as no antenatal investigations was done and this is her second child. First child was normal. The newborn girl had a large mass in sacrococcygeal region (as shown in fig 4.1). Routine pre operated radiological examination was done which show presence of a well defined lobulated variegated solid cystic mass approximated in size 174*79*119mm³, noted in perineal region, extrapelvic location. No other associated malformation was present. Complete excision of mass was done. She developed post operated wound infection which was treated by antibiotics and dressings. Grossly, the mass measured 22cm*12cm covered with skin which on cutting show variegated solid cystic areas and a rudimentary foot with toes identified, also a large cystic space with tuft of hair present. Also seen adipose tissue and areas of haemorrhage and necrosis (as shown in fig 4.2, 4.3). On cutting gritty sensation felt. Multiple cuts not reveal any axial skeleton or cephalic differentiation. Microscopically, the section show presence of skin with adnexa, gut mucosa, islands of cartilage, adipose tissue and rare pancreatic tissue identified (fig 4.4, 4.5, 4.6, 4.7). Based on these histopathological findings, a diagnosis of mature sacrococcygeal fetiform teratoma was made.

III. Discussion:

Sacrococcygeal teratoma, although rare, are the most common neoplasm in newborn. Earliest description of these tumors in Chaldean cuneiform tablets dates back to 2000 BC [5]. The predilection of sacrococcygeal site is probably due to occurrence of large number of pluripotent cells in caudal region [6]. Fetiform is a rare variant of a well formed teratoma, very few cases reported in English literature. In newborn period majority of sacrococcygeal teratoma are mature. Sometimes the degree of organization can be so advanced as to take a fetiform appearance as in our case. It is important to differentiate fetiform teratoma from fetus in fetu as the former may be malignant while the latter is generally considered to be benign [7]. The main difference between a fetiform teratoma and a fetus in fetu is that a fetus in fetu has a separate spinal cord and symmetrically developed organs. Although it is difficult to make the proper diagnosis, preoperated proceedings with a complete resection of mass is appropriate [8]. Sacrococcygeal teratoma is a component of a continuum with other tumor including fetiform teratoma and fetus in fetu. Fetiform teratoma must also be distinguished from ectopic pregnancies. All reported cases of fetiform teratoma are composed of mature tissue and present without placental or trophoblastic tissue. The newborn with sacrococcygeal teratoma has an excellent prognosis depending on the timing of diagnosis, malignant potential of tumor and the ease of surgical resection [9]. Prenatal diagnosis with planned cesarean section and immediate excision is the usual management [10]. But in our case, mother socioeconomic condition is poor, so she had not taken proper antenatal care. Thorough histopathological examination required to exclude any immature/malignant component which was not present in our case.

IV. Gross and microscopic figures:



Fig 4.1 show gross appearance Sacrococcygeal mass.



Fig 4.2 show rudimentary foot with Toes seen on cutting teratoma



Fig 4.3 show variegated appearance of cystic mass

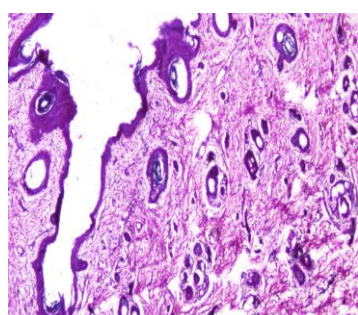


Fig 4.4 show microscopic skin Lining with adnexa

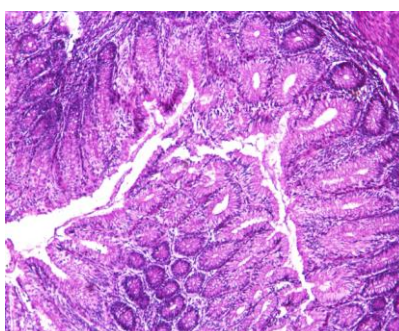


Fig 4.5 show microscopic GIT mucosa

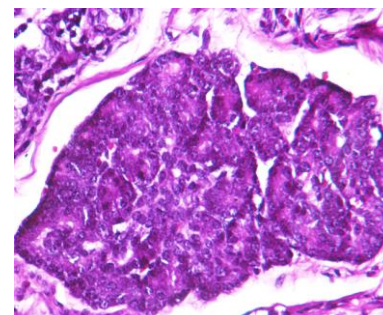


Fig 4.6 show microscopic pancreatic tissue

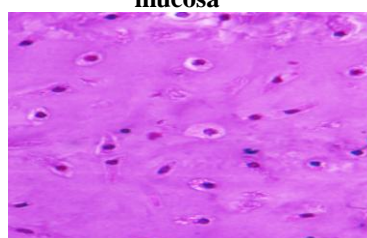


Fig 4.7 show microscopic island of cartilage

V. Conclusion:

Primary treatment for mature sacrococcygeal teratoma consists of complete surgical excision along with coccyx, as it may contain totipotent cellular remnant and cause recurrence. Close follow up always needed to detect recurrence or progression to malignancy. This case report highlights the feature of mature sacrococcygeal teratoma with fetiform differentiation.

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