Case Report

Sacrococcygeal Teratoma: A Case Report with Its Embryological Basis

Abhijeet Yadav[1], Mukul Yadav[2], Shiping Jain[3]

[1]Assistant Professor, Department of Anatomy, Bundelkhand Medical College, Sagar, Madhya Pradesh, India, [2]Professor and Head, Department of Anatomy, Bundelkhand Medical College, Sagar, Madhya Pradesh, India, [3]Assistant Professor, Department of Radiology, Bundelkhand Medical College, Sagar, Madhya Pradesh, India

Corresponding Author: *Dr. Abhijeet Yadav, Flat No. 8, Block 9, TILI Road, Shivaji Ward, Bundelkhand Medical College Campus, Sagar, Madhya Pradesh, India. Phone: +91-9827586326. E-mail: drabhijeetrocks@gmail.com*

Abstract

Teratomas are the tumors which are composed of tissue from all three embryonic germ layers. They may be benign or malignant, and are usually found in the midline. Sacrococcygeal teratoma is a common neoplasm which develop early in fetal life. It usually presents as a large mass extending from sacrum in the neonatal period. Diagnosis of which may be established by prenatal ultrasonography (USG). Perinatal morbidity and mortality are the risks associated with this defect. The present case had a big lump in the sacrococcygeal region. Further investigation including X-ray and USG of the effected region were done to confirm the diagnosis. The anamaly and its developmental basis is reported in this article.

Keywords: Investigations, Sacrococcygeal teratoma, Teratoma

INTRODUCTION

Sacrococcygeal teratoma (SCT) is a tumor that arises from remnants of the primitive streak, which normally degenerates and disappears. It is the most common germ cell tumor of childhood. It is derived from pleuripotent cells of the primitive streak and often contains various types of tissues (e.g. bone, nerve, hair). SCT occurs more commonly in females and usually becomes malignant during infancy (must be surgically removed by age of 6 months).[1] The tumor has been classified based on the location and degree of intrapelvic extension.[2] It arises from the Hensen's node which is made up of totipotent primitive cells.[3] It has malignant potential which parallels the age of the patient at presentation.[4] Complete resection of the tumor soon after birth provides an excellent prognosis.[5,6]

CASE REPORT

The case came from Department of Obstetrics, District Hospital, Sagar. It was a male child born by vaginal delivery, but with complications at the time of parturition. The neonate died immediately after birth. Complete examination of the case revealed a large mass in the sacrococcygeal region which had solid consistency. No other defect or deformity was reported (Figure 1).

Radiological investigation of the case was done which revealed (Figure 2):

1. Round soft tissue mass
2. With sclerotic material in it attached with an inferior part of the body
3. Rest of the bones are normal.

Ultrasonography (USG) of the Case was Done

On USG, a large heterogeneous predominantly solid mass with areas of cystic changes, heterogeneous echogenicity consistent with fatty changes seen at sacrococcygeal region. There are multiple hyperechoic foci within the mass sign of calcification (Figures 3 and 4).

DISCUSSION

The earliest record of SCT was in the cuneiform tablet of the Babylonian Chaldeans between 625 and 539 BC.[3,5] This neoplasm has been shrouded in mystery since then. The Chaldeans regarded this protuberance in the new

Figure 1: Case of sacrococcygeal teratoma

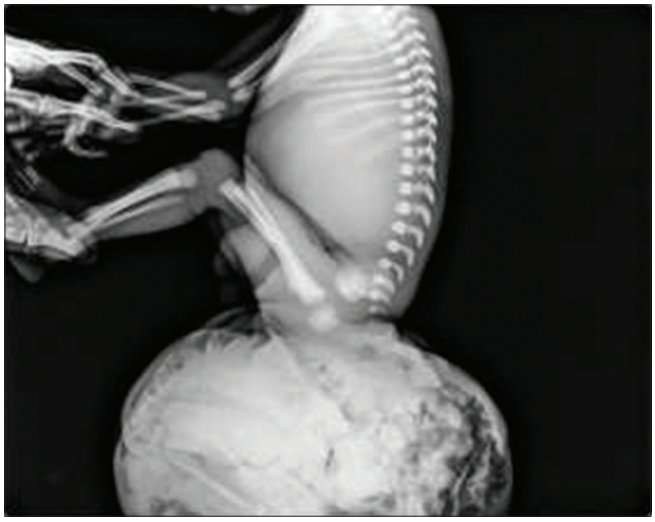

Figure 2: Lateral view of the present case showing the lesion

born infant as an omen of prosperity rather than a medical curiosity.[5] In certain African cultures, these babies are regarded as monsters, demons and babies from rivers, deities and sexual misconducts and as such a taboo to have such a baby.[7,8] Such babies are subjected to all forms of inhuman treatment and become victims of infanticide soon after birth.[7,9] Today, much is known about this interesting tumor. It is known to be a germ cell tumor and considered as a displaced ovum or a *fetus-in-fetu*.[5]

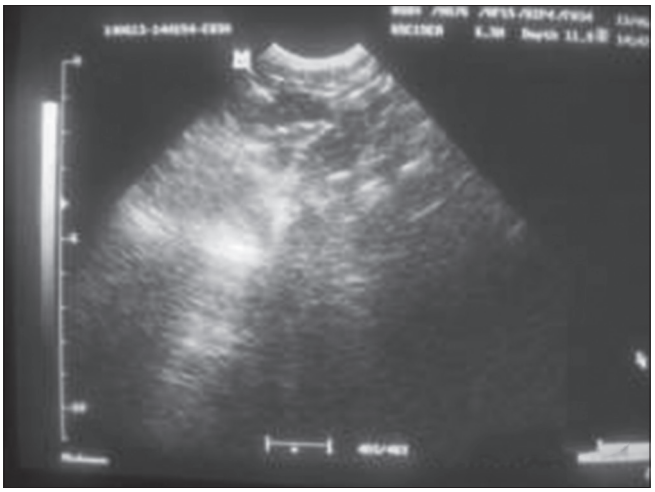

Figure 3: Ultrasonography of the case under study

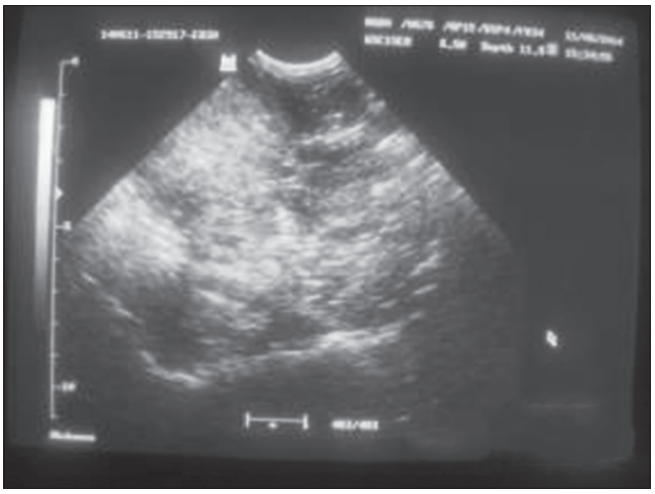

Figure 4: Ultrasonography of the same case

Remnant of the primitive streak may persist and give rise to SCT. SCT have an incidence of 1 in 35,000. Most effect (80%) are female.[10] These tumors may also arise from primordial germ cells that fail to migrate to the gonadal ridge.[11] Although most of the tumor is usually external with a minimal intrapelvic presacral component, there is a spectrum of tumor distribution and ranges to the extent of being entirely presacral, with no visible external component. As such, a digital rectal examination of a neonate with care to feel the normal presacral space may be an important screening technique.[12]

REFERENCES

1. Dudek RW. Embryology. 5th ed. Philadelphia: Wolters Kluwer; 2011. p. 32.
2. Brunicardi FC, Anderson DK, Billiard TR, Dunn DL, Hunter JG, Matthews JB, *et al*. Schwartz's Principles of Surgery. 9th ed. New York: McGraw Hill; 2010. p. 1450.

3. Tuladhar R, Patole SK, Whitehall JS. Sacrococcygeal teratoma in the perinatal period. Postgrad Med J 2000;76:754-9.
4. Ozoilo KN, Yilkudi MG, Ede JA. Sacrococcygeal teratoma in an adult female Nigerian. Ann Afr Med 2008;7:149-50.
5. Exelby PR. Sacrococcygeal teratomas in children. CA Cancer J Clin 1972;22:202-8.
6. Marina NM, Cushing B, Giller R, Cohen L, Lauer SJ, Ablin A, *et al.* Complete surgical excision is effective treatment for children with immature teratomas with or without malignant elements: A Pediatric Oncology Group/ Children's Cancer Group Intergroup Study. J Clin Oncol 1999;17:2137-43.
7. Chirdan LB, Uba AF, Pam SD, Edino ST, Mandong BM, Chirdan OO. Sacrococcygeal teratoma: Clinical characteristics and long-term outcome in Nigerian children. Ann Afr Med 2009;8:105-9.
8. Gatcombe HG, Assikis V, Kooby D, Johnstone PA. Primary retroperitoneal teratomas: A review of the literature. J Surg Oncol 2004;86:107-13.
9. Legbo JN, Opara WE, Legbo JF. Mature sacrococcygeal teratoma: Case report. Afr Health Sci 2008;8:54-7.
10. Moore KL, Persaud TV, Torchia MG. The Developing Human. 9th ed. St. Louis: Elsevier; 2013. p. 57.
11. Sadler TW. Langman's Medical Embryology. 11th ed. Philadelphia: Wolter Kluwer; 2010. p. 63.
12. Townshed CM, Beauchang RD, Evers BM, Mattox KL. Sabiston Textbook of Surgery. The Biological Basis of Modern Surgical Practice. Vol. 2. 17th ed. Philadelphia: Elsevier; 2012. p. 2131.

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