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Case Report

Sacrococcygeal Teratoma- A case report

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ABSTRACT

Sacrococcygeal teratomas are a type of germ cell tumours (GCTs), accounting for 40% of all GCTs in children. Interestingly 75% occur in females. Reporting here, a case of 2-month-old female baby hospitalized for surgical excision of sacrococcygeal teratoma. She was born with a mass at the lower back at birth and was diagnosed as a case of Sacrocoggeal teratoma. Postoperatively, the child had no complication and was discharged after 9 days stay in the hospital.

1. Introduction

Teratomas are interesting but uncommon lesions, occurring probably about 1 in 20,000 - 40,000 live births.[1] Teratoma is a subtype of germ cell tumour often comprised of cells derived from all the three germinal layers.[2] Germ cells are the cells which develop in the embryo and become the cells that make up the reproductive system in males and females.[3] Sacrococcygeal teratomas (SCTs) are the most common type of germ cell tumours (GCTs) in children accounting for 40% of all GCTS. The tumor is seen predominantly in girls with a ratio of four females to one male. In adults, sacrococcygeal teratomas are rare.[2]

Sacrococcygeal teratomas with malignant elements generally are not seen in the infants.[2] However, the incidence of malignancy in SCTS increases with age.[3] Prenatal discovery by ultrasound is becoming common. Poor prognosis is associated with the presence of polyhydramnios, placentomegaly, and those with gestational age less than 30 weeks.[1] Teratomas tend to occur more frequently in twins or in families having a history of twins.[4]

2. Case Report

A 2-month-old female baby was admitted to a Paediatric ward in a secondary hospital for excision of sacrococcygeal teratoma. From history collection, it was revealed that the baby was born with a mass at the lower back at birth and was diagnosed as a case of Sacrocoggeal teratoma in the first week of life. The parents have a non-consanguineous marriage. The child's birth order is third. The age of the mother was 42 years and the father was 39 years. The child was delivered by LSCS. The birth was uneventful.

Ultrasonography was done for the patient, which gave the impression of an irregular cystic mass of size 8x6 cm between the coccyx and the rectum, extending up to the left gluteal region. A blood test for alpha-fetoprotein in first week of life was done which gave a high value of 625.8 ng/ml. Preoperative investigations for complete blood count, serum creatinine, viral markers and blood grouping were normal. A chest x-ray was also done, which was normal.

Surgery for excision of the sacrococcygeal teratoma along with the coccyx was done. The sacrococcygeal mass was sent for biopsy, the results reported histomorphological findings consistent with sacrococcygeal teratoma. Blood test for alpha-fetoprotein level done post-operatively revealed a drastic decrease in the alpha-fetoprotein level with 89ng/ml.Post-operatively patient was shifted to Neonatal Intensive Care Unit for observation and monitoring, was

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shifted to the pediatric ward on the next day. The patient did not have any post-operative complications and was discharged after 9 day of hospital stay with the advice for follow-up check after 3 days.

2.1. Clinical presentation

Sacrococcygeal teratomas can be solid, cystic or mixed type. The lesions can vary in size, shape, location, and extension. Unlike teratomas in other the locations, SCTs often do not have a capsule or pseudocapsule, which makes it difficult in achieving a complete resection[3]. On examination, the visible portion of the lesion is covered with skin and is posterior to the anus. In some patients, all or a part of the lesion may be in the retrorectal space and/or the retroperitoneum. In these cases, patients will present with rectal pain, constipation, and/or a mass. Associated anomalies occur in 10-15% of cases and include imperforate anus, anorectal stenosis, anorectal agenesis, sacral hemivertebra, absence of the sacrum and coccyx, and anterior meningocele.[1]

2.2. Diagnosis

The diagnosis of sacrococcygeal teratoma is usually made through a physical examination. A chest x-ray is usually obtained to rule out metastatic disease. An abdominal film may show calcifications within the mass or displacement of the bowel by the mass. An ultrasonography is useful to determine the nature of the lesion (solid vs. cystic), the presence of an intraabdominal component, and the presence of liver involvement. Alpha-fetoprotein (AFP) and beta-human chorionic gonadotropin (beta-hCG) are serum tumor markers associated with teratomas and should be obtained preoperatively and followed postoperatively.[1]

2.3. Treatment

As soon as the diagnosis is made, complete excision of a sacrococcygeal teratoma is the only guarantee of cure. Early surgical intervention is associated with better prognosis. Excision should include the entire tumor and the coccyx, the site of origin.[4] if lesion is benign. (97%), there is no indication for any further therapy. These patients should be evaluated every 3 months for the first two years with an emphasis on rectal examination and AFP levels. If the lesion is malignant, adjuvant chemotherapy is indicated.[1]

In the present case, the patient underwent surgery for excision of the sacrococcygeal teratoma. After surgery, the patient was shifted to NICU for observation and monitoring. Post-operative medications included injection Ampicillin 125 mg, Inj. Metronidazole 40 mg, Inj.Gentamicin 15 mg, Inj Paracetamol 50 mg PRN and Syp. Trichloryl 3 ml PRN and was given intravenous fluid DNS 29ml/hour for 24 hours. Betadine ointment was applied to the incision site and zinc oxide cream was applied to erythematous areas in the perineum. The patient was nursed in a prone or lateral position. The patient was allowed breastfeeding by the first post-operative day. The patient's stayed in NICU was uneventful and was shifted to the paediatric ward the next day.

Table 1: Nurses role

Preoperative	
Problems	**Interventions**
Risk for impaired skin integrity	• Position in lateral or prone position • Change position frequently • Provide meticulous skin and back care • Massage skin periodically to stimulate blood circulation with special attention to bony prominences
Risk for injury or infection to sac	• Avoid positioning on back • Prevent contamination of mass • Careful handling while giving care • While on side lying position keep a pillow behind back to prevent sudden rolling of infant on the back.
Postoperative	
Ineffective Thermoregulation following surgery	• Frequently monitor vital signs • Place child in an isolette or infant warmer to prevent temperature fluctuation • Avoid exposing infant unnecessarily • Maintain thermoneutral environment
Risk for infection	• Keep surgical site clean and dry • Observe for bleeding, drainage at site surgery. • Nurse in prone of lateral position • Dressing done using aseptic technique • Administer antibiotics • Avoid surgical site with urine and feces
Impaired nutrition less than body requirement	• Administer IV fluids as ordered • Maintain intake and output chart • Begin oral feeding as soon as infant starts tolerating the feeds • Feed child in side lying position • Baby can be held gently as soon as surgical area is sufficiently healed • Burp the infant frequently between feeds.

2.4. Differential diagnosis

Any tumor in the sacrococcygeal or presacral region or in the buttocks must be considered as a possible sacrococcygeal teratoma.[4] The differential diagnosis for Sacrococcygeal teratomas includes lipoma, myelocystocele, infected pilonidal cysts, ischiorectal abscess, diastematomyelia,meningocele, epidermal sinus, sacral agenesis, parasitic twin, hamartoma,hemangioma, neuroblastoma, chordoma, rectal duplication, and sarcoma.[1]

2.5. Prognosis

The cure rate of benign sacrococcygeal teratoma is over 90 percent; the cure rate of malignant teratomas is almost zero.[4]

3. Conclusion

Sacrococcygeal teratomas (SCTs) are congenital neoplasms that arise from the coccyx and comprises of tissues that are derived from all three germ layers.[5] The tumor is seen predominantly in girls with a ratio of four females to one male. Complete excision of a sacrococcygeal teratoma along with the coccyx is the only guarantee of cure. Excision should include the entire tumor and the coccyx. The cure rate for benign sacrococcygeal teratoma is over 90 percent.

4. Conflicts of Interest

All contributing authors declare no conflicts of interest.

5. Source of Funding

None.

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