Case Report

Rare Paratesticular Masses in Children

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Pediatric paratesticular mass is common in pediatric surgical practice, and they could be because of an underlying encysted hydrocele, a teratoma, or an epididymal cyst. Furthermore, a malignant lesion such as rhabdomyosarcoma should be ruled out. Rare entities, such as fibrous hamartoma of infancy and cellular angiofibroma, are rarely encountered. We report two such cases of paratesticular masses with these rare pathologies.

Keywords: Cellular angiofibroma, fibrous hamartoma of infancy, paratesticular

INTRODUCTION

Paratesticular masses are not very common in the pediatric age group, but they can range from benign to malignant lesions. Benign lesions are lipoma, leiomyoma, and dermoid cyst, whereas intermediate lesions may be an inflammatory myofibroblastic tumor. Malignant lesions that one should rule out are rhabdomyosarcomas and rarely melanotic neuroectodermal tumor of infancy. Herein, we report two pediatric cases with rare benign paratesticular neoplasms: fibrous hamartoma of infancy and cellular angiofibroma. In both cases, the provisional clinical diagnosis had to be changed after the histopathology report was available. With this backdrop, we aim to highlight the clinicopathological features and management of these tumors.

CASE REPORTS

Case 1

A 2-year-old boy was brought to the outpatient department (OPD) with a painless left-sided inguinoscrotal swelling. On examination, a tense cystic swelling was felt separate from the testis with a positive traction test. A provisional diagnosis of encysted hydrocele of the cord was made, and the child was planned for herniotomy.

Intraoperatively, a firm 4 cm × 3 cm fibrofatty mass was found to be arising in the left paratesticular location, near the cord, reaching the midline in front of the pubic symphysis. The mass was densely adherent to the scrotal skin, and a gross total resection was performed only after increasing the incision significantly. Histopathology [Figure 1] revealed bundles of myofibroblastic components with interspersed bundles of collagen and mature adipose tissue, consistent with the triphasic histology of fibrous hamartoma of infancy. The child had an uneventful recovery and has completed 1 year of follow-up without any features of recurrence.

Case 2

A 1-year-old boy was brought to the OPD with a history of left-sided scrotal swelling since birth. On examination, he was found to have a 5 cm × 5 cm sized left-sided paratesticular mass and a discrete suprapubic nodule. His serum alpha-fetoprotein was within normal limits, and ultrasound revealed a left scrotal mass with increased vascularity. Computed tomogram was suggestive of a scrotal swelling which displaced the testis superiorly, with edematous and infiltrated subcutaneous fat at the scrotal root. Fine-needle aspiration cytology showed a small round cell tumor with focal spindling, whereas a Trucut® biopsy was consistent with the presence of spindle cells in an edematous stroma. The child was started on chemotherapy after a provisional diagnosis of rhabdomyosarcoma was made. After 8 weeks of chemotherapy (vincristine, actinomycin, and

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cyclophosphamide), the child was subjected to excision of mass as it showed a minimal reduction in size.

Intraoperatively, the mass was densely adhered to the skin and surrounding tissues, including the testis. Left orchidectomy with excision of the mass was done. Histopathology showed the paratesticular mass to be a cellular angiofibroma with CD34 positivity [Figure 2a-c]. It was densely adherent but not involving the testis or cord. The suprapubic nodule revealed features of fibromatosis. The child had an uneventful postoperative course and is under follow-up without any recurrence.

**Discussion**

**Fibrous hamartoma of infancy**

Initially described by Reye as the subdermal fibrous hamartoma of infancy in 1956, around 200 cases have been reported since then.[2] Majority of the children present with solitary subcutaneous nodules within the first 2 years of life and have a clear male preponderance. The predominant site of occurrence is the genital region, followed by upper extremity, axilla, and back. Histologically, it has a classical triphasic organoid histology with mature adipose, fibrous component, and immature mesenchymal component in a myxoid stroma. Often, there is disorderly fibrosis in the center with a pseudoangiomatous part and strong CD34 positivity. The mature adipose tissue is S100 positive, and the primitive mesenchymal tissue often shows positivity for vimentin, actin, and desmin.[3]

Although the dilemma about the actual pathogenesis of this lesion still exists, case reports are highlighting various cytogenetic abnormalities in children harboring this tumor. The treatment of choice is excision. Local recurrence rate can go up to 15%–20%, but most are benign, and re-excision is curative.[4]

**Cellular angiofibroma**

Cellular angiofibroma is a benign mesenchymal neoplasm, first described by Nucci et al. in 1997.[5] It frequently arises in the inguinoscrotal or vulvovaginal region. Mostly occurring in adults above 40 years of age, it is scarce in the pediatric population. There is an equal gender distribution of this tumor.[5] It presents as a slow-growing painless mass, usually well marginated and present in the subcutaneous tissue. Although no specific findings have been described, the standard modality of diagnosis is ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI), with MRI being more sensitive than CT.

Microscopically, the majority are circumscribed with few cases of local tissue infiltration described. Histologically, they are composed of spindle cells with collagen stroma and prominent hyalinized blood vessels and an intraslesional fat component. Rarely, atypia or sarcomatous transformation has been described. Tumor cells are positive for CD34, smooth muscle actin, desmin, and vimentin and negative for S-100.[5] Surgical excision is the treatment of choice, and local recurrence or metastasis is very rare.[6]

**Conclusion**

A thorough clinical examination followed by a high index of suspicion is necessary for children presenting with a paratesticular mass. In the first case, the large mass arising from the deeper dermis created dilemma with an encysted hydrocele. This differential must always be kept in mind in cases of dense adhesions. As the outcome is good, every attempt must be made to preserve the opposite testis.

Both rhabdomyosarcoma (RMS) and cellular angiofibroma show spindling on histology. Needle biopsy with immunohistochemistry is necessary to...
differentiate between the two. An alternative diagnosis must always be kept in mind in case the tumor is not responding to chemotherapy.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

REFERENCES
1. Ahmed HU, Arya M, Muneer A, Mushtaq I, Sebire NJ. Testicular and paratesticular tumours in the prepubertal population. Lancet Oncol 2010;11:476-83.
2. Reye RD. A consideration of certain subdermal fibromatous tumours of infancy. J Pathol Bacteriol 1956;72:149-54.
3. Kim HK, Kim KS, Kang DW, Lee SY. Fibrous hamartoma of infancy in the scrotum: A case report. J Korean Soc Radiol 2017;76:152-7.
4. Kang G, Suh YL, Han J, Kwon GY, Lee SK, Seo JM. Fibrous hamartoma of infancy: An experience of a single institute. J Korean Surg Soc 2011;81:61-5.
5. Nucci MR, Granter SR, Fletcher CD. Cellular angiofibroma: a benign neoplasm distinct from angiomyofibroblastoma and spindle cell lipoma. Am J Surg Pathol 1997;21:636-44.
6. Mandato VD, Santagni S, Cavazza A, Aguzzoli L, Abrate M, La Sala GB. Cellular angiofibroma in women: A review of the literature. Diagn Pathol 2015;10:114.