

Mesothelial Cyst Masquerading as Hydrocele of the Cord in a Male Child: Case Report

ABSTRACT

Benign mesothelial cyst is commonly found in adults involving the pleura. However, in children it may be rarely localized in inguinal region. We encountered a 2-year-old male who presented with inguinal swelling, which turned out to be mesothelial cyst.

Keywords: Child; groin; inguinal hernia; mesothelioma; mesothelial cyst.

1. INTRODUCTION

Mesothelial cyst is commonly encountered in adults and its most common location is pleura and peritoneum [1-3]. Multiple risk factors have been proposed which leads to its formation [1]. It maybe rarely seen in children [1]. As per the literature review extra abdominal and extra pleural location of mesothelial cyst in children is even rare [1]. Only 3 cases of children having mesothelial cyst in inguinal region have been reported [4-6]. Here we present a case of mesothelial cyst at inguinal region in a child.

2. PRENTATION OF CASE

A 2-years -old male child presented with the swelling in the left inguinal of two weeks duration .It was not reducible and was gradually increasing in size. On physical examination, transillumination was positive and was suspected to be hydrocele of the cord. Ultrasound

confirmed its cystic nature as seen in Fig. 1, so his surgery was planned.

After high ligation of the hernia sac, we didn't find any swelling along the cord and the cyst appeared to be separate from the cord. It was present in the subcutaneous area just lateral to the inguinal canal. On further exploration, it was a multiseptated cystic structure and had serosanguinous fluid. These cysts had thin wall and were easily ruptured during excision. Full attempt was made to remove all the cysts, however, one wall was adherent to the deeper vascular structures, so it was left there. The wound was closed and the sample was sent for histopathology.

His post-operative recovery remained uneventful. The histopathology reported of mature fibro adipose tissue lines by flattened mesothelium where stroma is myxomatous and infiltrated by lymphocytes, neutrophils, plasma cells and histocytes. No evidence of granulomatous disease or malignancy was found. Fig. 2.

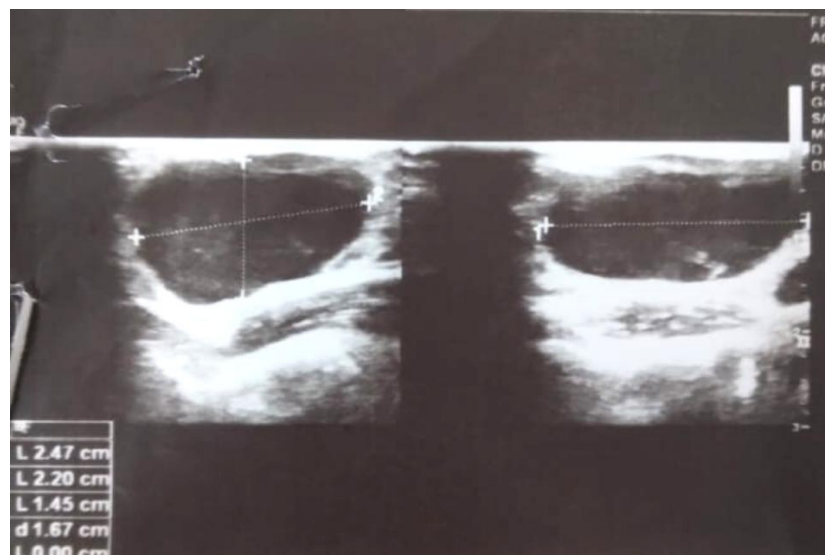


Fig. 1. A cystic structure of 24x22x14 mm dimensions with septation is seen in left inguinal region

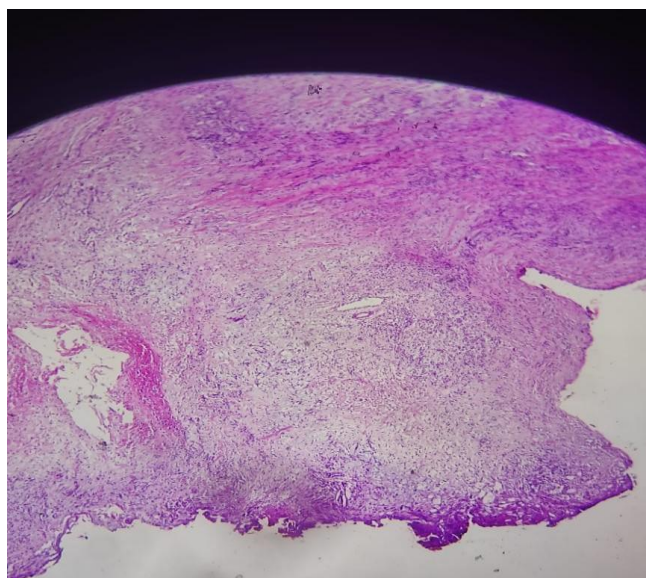


Fig. 2. Histopathological examination at the magnification of 10x shows fibro adipose with inflammatory cells infiltrate lined by mesothelial cells

Immunohistochemistry showed CD-31 which highlighted vascular proliferation, and Pan-cytokeratin and S-100 were negative. CD-68 highlighted histiocytes and smooth muscle actin highlighted smooth muscle fibers. All these findings suggested benign mesothelioma cyst. He is in regular follow up from two months and is doing well to date.

3. DISCUSSION

The groin masses can present at any age with common differential diagnoses include hernia, hydrocele, undescended testes, spermatocele, spermatic cord cyst, abscess and lymphadenopathy. However, the mesothelial cyst of the inguinal region, inguinal canal, spermatic cord and pretesticular region is very rare [4].

Only three cases of mesothelial cyst have been reported in the pediatric population. All of them presented as inguinal mass which was irreducible and operated as a case of inguinal hernia and undescended testis. Similarly, in our case, we suspected it as hydrocele of the cord.

Long term inhalation or exposure to asbestos is seen to be the most common cause of mesothelioma arising from either the pleura peritoneum or pelvis [2]. Familial multiple mesothelial cyst among family members has also been observed [3]. Given the limited number of kids presenting with extra-pleural mesothelioma, no particular cause could be ascertained.

Fetal inguinal fold differentiation occurs at 7 week where an outpouching from the gubernaculum forms the process vaginalis in males and the canal of Nuck in females which is a continuation of the abdominal peritoneum and its muscular layers [7]. Multiple theories have been postulated for the pathophysiology and the formation of mesothelial cyst. Firstly it states a flawed obliteration of the process vaginalis or the canal of Nuck forming a cyst [8]. Second theory states the inclusion of embryonic remains forming a cyst during the development process, while the third theory stating the de novo development of the cyst from the lining of the canal.

Benign mesothelial cyst is usually lined by either simple squamous or cuboidal cells with infiltration of mesothelial cells and absence of atypical mitosis [6,8,9]. In order to confirm the origin of benign mesothelial cells pan cytokeratin and calretinin stains can be used [2, 8, 10]. Whereas, cytokeratin 5/6, WT 1, EMA help to differentiate and identify malignant mesothelial cells [9]. In this case, histopathology showed mature fibro adipose tissue lined by flattened mesothelium cells. Inflammatory cells infiltrate was present along with smooth muscle and blood vessels. Immunohistotyping was positive for CD 31 and smooth muscle actin but staining by pan cytokeratin was negative.

The recurrence of benign cystic mesothelioma has been reported even after multiple times of resection [10]. All the 3 cases reported in

pediatric population has shown no re occurrence [6]. Our case was treated in a similar manner and a simple resection of suspected benign multi septate cyst mesothelioma was done. A close follow up of the child is planned to look for the recurrence.

4. CONCLUSION

Mesothelial cyst causing swelling of the inguinal region in a pediatric population is a rare presentation so the surgeons should be vigilant to keep it as a differential diagnosis while examining a child with inguinal mass.

CONSENT

All authors declare that 'written informed consent was obtained from the patient

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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