Case Report

DOI: https://dx.doi.org/10.18203/2349-2902.isj20205912

Mesothelial cyst in inguinal hernial sac in a male child: a case report

Baikuntha Narayan Mishra, Sadasiba Padhy*, Prabin Prakash Pahi, Ranjit Kumar Joshi

Department of Pediatric Surgery, AMRI Hospital, Bhubaneswar, Odisha, India

Received: 21 September 2020 **Accepted:** 05 December 2020

*Correspondence: Dr. Sadasiba Padhy,

E-mail: spmmc2003@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Mesothelial cysts of inguinal area are extremely rare and few cases have been reported in females, arising from round ligament of uterus. Inguinal hernias are a common surgical problem in children presenting as an inguinal or inguino scrotal swelling. Usually the contents of hernial sac in a male child are intestine or omentum and in females it may contain ovary. Mesothelial cyst of round ligament may present as an inguinal mass in females, but it is very rare to find in side inguinal hernial sac of a male child. Here in we report a case of 2 year 9-month-old male child, who was operated for irreducible right congenital inguinal hernia. A pedunculated cystic mass was found to be the content and was removed. Histopathology confirmed the diagnosis of mesothelial cyst. Because of rarity, we report this case.

Keywords: Mesothelial cyst, Inguinal mass, Irreducible hernia

INTRODUCTION

Mesothelial cyst in inguinal region is very rare and can very readily be mistaken for an inguinal or femoral hernia. There are some case reports describing mesothelial cyst of the groin which are associated with the spermatic cord or round ligament of uterus.¹ Congenital inguinal hernis are more common in males and may present as a reducible or irreducible inguinal or inguino scrotal swelling. Sometimes they present with obstruction of gut. It may contain a segment of intestine or omentum inside hernial sac. But finding mesothelial cyst in side hernial sac is an extremely rare finding. USG of groin detects the lesion in most of the cases, but may be missed and reported as an irreducible hernia.² They are usually asymptomatic or may present with pain, malaise and sense of heaviness in groin similar to inguinal hernia. They are misdiagnosed as groin hernia during clinical examination and identified at the time of surgery.^{2,3} The treatment is inguinal exploration, excision of the cyst followed by herniotomy. On extensive google and pubmed search, only two cases were found in hernial sacs of 10 years old and 2 years old male child.^{4,5} About four cases have been found in adult males.^{6,7} Rest other cases are found in females as a mesothelial cyst of round ligament of uterus, presenting as inguinal mass.⁶ It may also present as an intra-abdominal or retroperitoneal mass in some cases, particularly in adults.

CASE REPORT

A 2-year 9 months-old male presented with a right inguino scrotal swelling present since birth without pain. The swelling was more prominent on coughing and straining and was not reducible. There was no evidence of inflammation or incarceration.

The patient appeared well-built and had stable vital signs as well as normal laboratory results. USG of both inguino scrotal region and pelvis was suggestive of right sided inguinal hernia containing omentum.

With a pre-operative diagnosis of right irreducible congenital inguinal hernia Herniotomy was planned. On exploration of inguinal canal and opening the sac a pedunculated unilocular cyst of size $5\times3\times2.5$ cm with a smooth, glistening, and translucent surface was found to be attached to the sac with a narrow stalk extending

towards deep inguinal ring, but was not communicating (Figure 1). The cyst was excised, herniotomy performed after ligating and dividing sac proximally. Histopathologic examination revealed simple mesothelial cyst with chronic inflammation lined by regular mesothelial cells without atypia or mitosis. The postoperative course was uneventful, and the patient was discharged from the hospital next day. He is doing well on follow ups and no recurrence observed during last one year.



Figure 1: Smooth walled translusent clear fluid filled cyst from inside of right inguinal hernial sac obtained as pedunculated cyst.

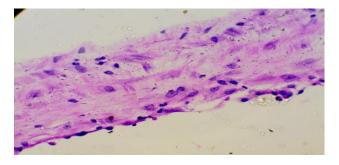


Figure 2: 40x- HPE shows cyst wall comprising of fibro collagenous tissue admixed with good number of mixed inflammatory cells and capillaries. Wall is lined by simple cuboidal to sqamous epithelium representing simple mesothelial cyst with chronic inflammation lined by regular mesothelial cells. No evidence of granuloma or malignancy.

DISCUSSION

Inguinal mass in a child includes hernia, enlarged lymph nodes, parasitic infection, ganglion cyst, and malignant tumors such as lymphoma, leiomyoma, etc.^{1,8-10} A mesothelial cyst of the inguinal hernia sac in children is very rare. They may be identified only during surgery for hernia.⁵ Mesothelial cysts are rare inclusion cyst and benign in nature. They remain attached to the serosal surface of the visceral organs or peritoneum. Earlier it was thought to be a cystic lymphangioma; but on electron

microscopic examinations they are found to be originating from mesothelial cells. Only 130 cases have been reported so far and 84% of them are detected in females of reproductive age group.¹²

There have been two theories suggested for the development of mesothelial cyst in round ligament of uterus. But in males it may be similar to pathogenesis of a cystic hydrocele or hydrocele of the spermatic cord which results from flaw in obliteration of processus vaginalis. Exact pathogenesis is not clear. Cyst formation may result from inclusion of embryonic mesenchymal elements or remnants during development. ^{1,9,13}

They present usually as inguinal hernia in males and mostly asymptomatic. In our case there was absolutely no pain, heaviness in groin or any other symptoms and appeared as a case of irreducible congenital inguinal hernia. Arabi et al in 2010 reported a multilocular mesothelial cyst presenting with sign and symptoms of incarcerated inguinal hernia.4 Vaos et al in 2008 reported a case of unilocular mesothelial cyst in a two years old cryptorchid boy arising from spermatic cord. Our case differed from them in presentation. It was an isolated unilocular swelling inside hernial sac, resembling a lymphatic cyst, not associated with cryptorchidism and was not incarcerated. Histopathology reveals a thinwalled, unilocular cyst containing serous material. Mesothelial cysts are lined with single layer of flattened, cuboidal cells and are thin-walled, with smooth muscle and capillaries in the walls.⁷ Our histopathological study was consistent with the above-mentioned description (Figure 2).

Usually mesothelial cysts of round ligament of uterus are misdiagnosed as inguinal hernias or are confused with common benign cysts.⁷ In males they may be reported as irreducible or incarcerated hernia or in association with cryptorchidism.^{4,5} In an inguinal or inguino scrotal pathology ultrasonography is the initial imaging modality because of its easy application and availability and also it gives information about the peristalsis or changes by coughing or valsalva maneuver. 10,11,13 In case of a palpable or suspicious mass, CT scan provides better anatomic orientation and is useful for differential diagnosis of other groin lesions. 10 MRI has also been advocated in asymptomatic groin mass, particularly when there is sonographic evidence of pelvic extension.⁴ In our case USG showed omentum inside hernial sac and could not detect mesothelial cyst.

Mesothelial cysts are benign lesions with excellent prognosis; however, there is chance of recurrence and in some cases, there may be a neoplastic change. A Complete surgical removal is the treatment of choice.^{4,12}

A pre-operative definite diagnosis of mesothelial cyst in a male child is difficult and is always incidental during hernia surgery. In our case, it was detected after opening the hernial sac as a pedunculated lesion and was excised during herniotomy. Histopathology confirmed the diagnosis. The child is on regular follow ups and no recurrence observed during last one year.

CONCLUSION

Mesothelial cyst are rare groin lesions in children and may be found in side hernial sac, presenting clinically as irreducible hernia. Complete surgical excision, Histopathological confirmation and regular follow ups are highly essential.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

REFERENCES

- 1. Harper GB, Awbrey BJ, Thomas CG, Askin FB. Mesothelial cysts of the round ligament simulating inguinal hernia. Report of four cases and a review of the literature. Am J Surg. 1986;151(4):515-7.
- 2. Vargas-avila AL, Gomez-Montaya LE, Guidos -GI JC, Avila-Rivera JL, Huerta-garcia de Leon, Medina-Tirado MA. Round ligament cyst simulating incarerated inguinal hernia. Report of a case. Cir Cir. 2017;85:334-8.
- 3. Tirnaksiz MB, Erkan A, Dogrul AB, Abbasoglu O. Mesothelial cysts of Round Ligament of the Uterus in 9 patients:15-year Experience. Int Surg. 2016;101:171-5.
- 4. Aarabi S, Drugas G, Avansino JR. Mesothelial cyst presenting as an irreducible inguinal mass. J Pediatr Surg. 2010;45(6):e19-21.
- 5. Vaos G, Zavras N, Velaoras K, Ereikat K. Mesothelial cyst of spermatic cord as a cause of acquires cryptorchism. Hernia. 2009;13:431-9.

- 6. Choi KW, Lee WY. A Mesothelial Cyst Presenting as Inguinal Mass: Two Case Reports and Literature Review. J Curr Surg. 2018;8(3-4):38-40.
- 7. Kubota K, Okazaki M, Miura Y,
- 8. Itabashi M, Mafune K, Kitajima M. Three cases of mesothelial cysts arising at the inguinal hernial sac. J Jap Surg Assoc. 2009;70(2):604-8.
- 9. Ryley DA, Moorman DW, Hecht JL, Alper MM. A mesothelial cyst of the round ligament presenting as an inguinal hernia after gonadotropin stimulation for in vitro fertilization. Fertil Steril. 2004;82(4):944-6.
- 10. Cheng D, Lam H, Lam C. Round ligament varices in pregnancy mimicking inguinal hernia: an ultrasound diagnosis. Ultrasound Obstet Gynecol. 1997;9(3):198-9.
- 11. Warshauer DM, Mandel SR. Leiomyoma of the extraperitoneal round ligament: CT demonstration. Clin Imaging. 1999;23(6):375-6.
- 12. Anderson CC, Broadie TA, Mackey JE, Kopecky KK. Hydrocele of the canal of Nuck: ultrasound appearance. Am Surg. 1995;61(11):959-61.
- 13. Soon DS, Shitton H, Andrabi A. Mesothelial inclusion cyst: a rare occurrence. J Surg case rep. 2016;12:1-3.
- 14. Stickel WH, Manner M. Female hydrocele (cyst of the canal of Nuck): sonographic appearance of a rare and little-known disorder. J Ultrasound Med. 2004;23(3):429-32.

Cite this article as: Mishra BN, Padhy S, Pahi PP, Joshi RK. Mesothelial cyst in inguinal hernial sac in a male child: a case report. Int Surg J 2021;8:395-7.