http://jmscr.igmpublication.org/home/
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossref DOI: https://dx.doi.org/10.18535/jmscr/v13i05.04

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Perianal Parasitic Cyst in a Child – Case Report

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Abstract
Perianal cyst in pediatric age group is very rare, even rarer is a parasitic cyst in perianal region. Epidermoid cyst or a parasitic cyst may present in perianal region.
Epidermoid cysts are common skin lesions. They can get complicated by inflammation, infection, rupture, or malignancy. Parasitic cyst may be caused by Enterobius vermicularis, Strongyloides and Echinococcus granulosus. They present as a cyst, nodule, granuloma or as an abscess. These cysts are not common in children and scarcely reported. We herein report a case of Perianal parasitic Cyst in a 5 year old boy who was successfully treated by complete surgical excision and is doing well after six months follow-up. Histology revealed parasitic cyst of unknown origin.
Keywords: *Parasitic cyst, perianal cyst, perianal nodule, perianal granuloma.*

Introduction

Perianal cysts are mostly benign, fluid filled lesions located abnormally in perianal region. The most common perianal cyst is an epidermoid cysts which is a benign slow-growing lesion derived from the epidermal layer of the skin. They occur mostly in males around the age of 40 years, but in children it is very rare. They develop as a result of proliferation of epidermal cells within the dermis. These cysts contain keratin and are lined by stratified squamous epithelium. These are also called epidermoid , epidermal inclusion or sebaceous cyst(1). Similarly hydatid cyst(2) caused by echinococcus granulosus, tapeworm larvae and Enterobius vermicularis may result in cyst formation, perianal abscess, subcutaneous nodule and granuloma. They present like a cystic mass, nodule or granulomas. Parasitic lesions presenting as a sub-cutaneous nodule or cyst are very rare in children .There are reports of 13 cases in children and adolscents(3). They are often asymptomatic and difficult to diagnose in unsuspected cases particularly at unusual sites . Perianal abscess caused by Enterobius vermicularis may also present as a cystic lesion due to

infection of anal gland resulting in intersphincteric collection[4]. The usual diagnostic modalities are FNAC, USG, CT or MRI along with serology and stool examination to identify the exact nature of lesion and infestation. FNAC may demonstrate larvae of Enterobius vermicularis which can be managed medically with anti-helminthic treatment resulting in a complete remission[5]. In most cases it is difficult to identify exact nature of parasite. Surgical excision and histopathology gives a definite diagnosis and is the treatment of choice in majority of case.

Case Report

A 5-year-old male child came to the OPD with history of a round, soft, painless mass of 2 X 2 cm size found in peri-anal region on the left side near the anal verge. There was no fistula or fissure and the swelling was confined to sub-cutaneous tissue as per Per-rectal examination it was slowly growing and had no evidence of local inflammation. He had history of constipation and painful defecation and itching sensation in perianal region earlier. He developed a small perianal nodule and anal fissure 6 months back which improved with conservative treatment at peripheral hospital. There was no history of pruritus, bleeding per anum, discharge or passing worms or contact with dogs or pets.

The case was provisionally diagnosed – as a case of Perianal Granuloma.

USG of Perineal region was suggestive of – Well defined thick walled elongated collection of size 13 x 7.1 mm in left perianal region within intersphincteric plane; with diffuse internal echoes seen within the collection and without any obvious internal opening being identified.

MRI Perineum showed T1w hyperintense, T2w hypointense elongated collection 16 x 8 mm is seen in left intersphincteric plane at perineal region S/O – perianal collection in left intersphincteric plane likely to be Hemorrhagic / Proteinaceous content.

Serology for Hydatid Cyst was Negative.

Stool examination did not reveal any visible Worms (ova, cyst or trophozoites).

Excisional Biopsy was performed, there was a cystic lesion around 2.5 cm X 2.5 cm , lateral to anal margin on the left side at 3'o clock position , in the sub-cutaneous plane , partially embedded between the sphincteric muscles. The lesion was excised completely and sent for histopathology.

Histopathology Examination revealed "Eosinophilic Granulomatous inflammation with fragmented cuticular elements of adult worms suggestive of parasitic cyst of unknown nature."

The patient had uneventful recovery and doing well in follow-ups after 6 months.

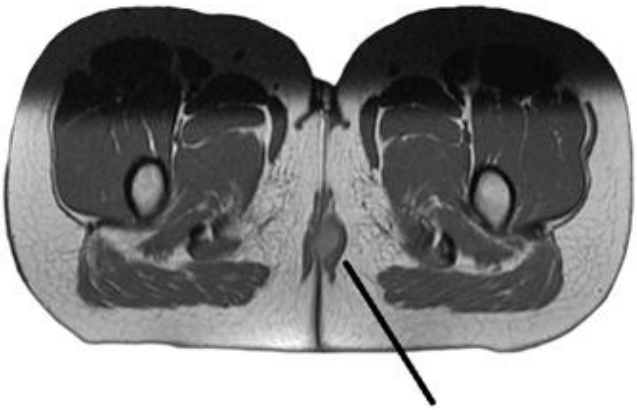

Figure 1 - T1w (axial) hyperintense

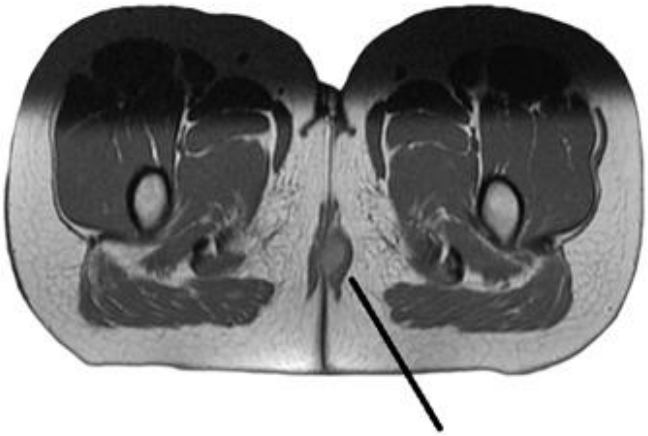

Figure 2 - T2w (axial) hypointense elongated collection

Figure 3 – Post excisional, gross specimen

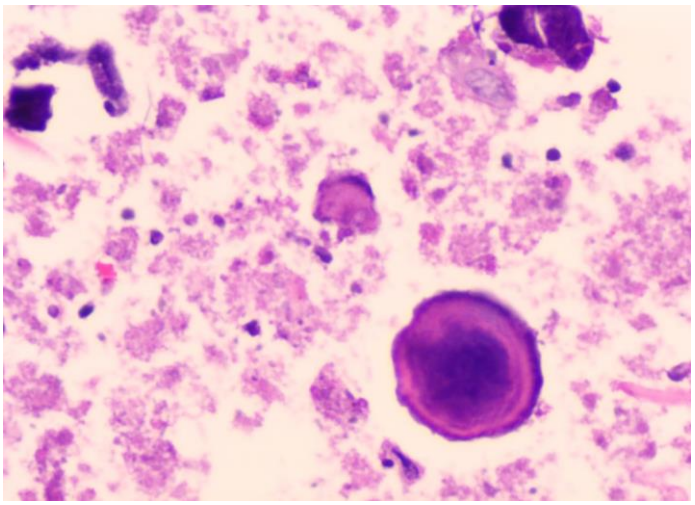

Figure 4 – Eosinophic Granulomatous inflammation with fragmented cuticular elements of adult worms

Discussion

Parasitic infestations may occur in children in developing countries due to poorly developed immune system and leading to pathophysiological disturbances[6]. Diagnosis of a parasitic cyst clinically in perianal area is very difficult. Cystic lesions in perianal region in children is a very rare entity. Most commonly perianal abscess is encountered. However very few cases of epidermoid cysts , nodules due to Enterobius vermicularis and Hydatid cysts are reported. Strongyloides may also present like cystic lesion . Enterobius vermicularis is a common nematode which is transmitted by feco - oral route , the adult worms migrate to the rectum or other ectopic site i.e, vagina, liver, omentum where they lay eggs. They may present as a sub-cutaneous nodule or cyst at ectopic sites and are mostly asymptomatic. Chandra Sama et al. in 1977 reported ectopic infestation of Enterobius vermicularis, such as female genital tract, intestine walls, peritoneal cavity, perineal region, prostate, urinary bladder, ureter, spleen , liver and lungs[7].

Perianal region is a rare site of deposition of Enterobius vermicularis eggs and less than 30 cases in the literature have been reported so far, majority of which are in adults. The parasite may migrate through healthy skin, anal mucosa and crypts, where the worm completes its entire life cycle[7].

Mojtaba et. Al in 2002 reported a case of perianal cyst in perineal and right femoral region in a 84 year old female caused by Ecchinocous granulosus. Pre- operative diagnosis is important to avoid spillage and anaphylaxis, no such case is reported in pediatric age group[2]. Secondary bacterial infection of perineal excoriated skin may occur in Enterobius vermicularis infestation, dead parasite or eggs are deposited in ectopic sites causing granuloma or abscess 12 such cases was reported earlier in children and adolescents . Luigi et al in 1988 reported a case in 5 year old boy presenting as sub cutaneous nodule without evidence of fissure or fistula[3]. In our case there was sub-cutaneous nodule and no fissure or fistula detected at the time of presentation but there was history of pruritus and anal fissure 6 months back.

Perianal abscess is a common clinical condition, and to be differentiated from infected perineal cyst. Incision and drainage are sufficient for abscess while complete excision is required for infected perineal cyst. Radiological investigations can help in determining the nature of the perineal swelling. In doubtful cases, fine needle aspiration and/or biopsy can be performed to determine the nature of the lesion[3,7].

Stool examination is positive in 5-15 % cases. FNAC may demonstrate E.V. eggs or larvae but they are underdiagnosed due to lack of familiarity with Enterobius vermicularis eggs or larvae. Adult worms may degenerate and can become completely unrecognizable or absent from the smear[8].

USG,CT- SCAN and MRI are other modalities to identify the nature of the lesion and infestation[5]. In our case USG and MRI were performed, we did not prefer FNAC because of the unusual location, MRI scan revealed T1w hyperintense, T2w hypointense elongated collection 16 x 8 mm is seen in left intersphincteric plane at perineal region S/O – perianal collection in left intersphincteric plane likely to be Hemorrhagic / Proteinaceous content. Hydatid serology was negative, there was no history of contact with dogs or any domestic pets . Stool examination did not reveal presence of any worms.

Surgical excision performed and the specimen sent for histopathological examination to reach a definite diagnosis , the cyst was present in sub-cutaneous plane with extension to inter-sphincteric area . Histopathology pictures were suggestive of a parasitic cyst of unknown nature. Conservative treatment with antibiotics and anti-helminthics the treatment of choice where a pre-op diagnosis of Enterobius vermicularis is confirmed.

Granulomatous lesion do not subside spontaneously and will require surgical excision.

Mattia et al in 1992 described a case of 6 year old girl with recurrent cellulitis and perianal mass containing Enterobius vermicularis and dead parasite[9].

YK Yadav et al in 2012 reported cytological diagnosis of parasite presenting as nodule in 35 cases, out of 361 cases examined. A definite diagnosis was possible only in 14 cases and biopsy correlation was made in only 8 cases, hence in majority of cases a definite histological diagnosis was not possible[10].

In our case no such eggs or dead parasite were detected in histopathology, histopathology picture was suggestive of parasitic cyst of unknown nature. However the past history of anal fissure, itching and absence of serological evidence in favor of hydatid cyst, it was presumed to be a parasitic cyst due to Enterobius vermicularis, but could not be confirmed.

Conclusion

Parasitic cyst in perianal region is rare and a definite diagnosis is difficult, histopathology may show evidence of parasitic infection. But identifying the causative parasite is difficult. High degree of clinical suspicion, serological investigation and histopathological determination is very much essential.

References

1. Gupta R ,Verma P, Bansal N. , Semwal T.A case of Ruptured perineal Epidermal cyst. Cureus (2020) Oct 22;12(10):e11099. Doi : 10.7759/cureus.11099.
2. Ahmed-Nezhad M , Rezainasab R et al. Perineal and Right femoral hydatid cyst in a female with regional paresthesia : a rare case report . BMC Surgery(2022) Feb 23;22:64. Doi : 10.1186/s12893-022-01516-z
3. Avolio L , Avoltini V , Ceffa F et al. Perianal granuloma caused by Enterobius Vermicularis : Report of a new observation and review of the literature.132(6)June1998:1055-56.doi:org/10.1016/S0022-3426(98)70411-1
4. Mortenson JN , Thomson PJ .Perianal Abscess due to Enterobius vermicularis : Report of a case. Diseases of Colon &Rectum.27(10);Oct1984:677-678 doi:10;1007/BFO2553365
5. Gupta B, Jain S . Perianal nodule due to Enterobius Vermicularis: Cytomorphological spectrum on fine needle aspiration cytology with a review of literature . Tropical Parasitology 8(1):p

53-55, Jan–Jun 2018. | DOI: 10.4103/tp.TP_33_17

6. Hesse AJ A , Nouri A , Hassan SH et al .Parasitic infestations requiring surgical interventions . Seminar in Pediatric Surgery;
7. Takano Y ; Namiki M ; Toki K ; Okuyama A ; Perineal Epidermal Cyst. Urol Int(1994)53(1):53-55.doi.org/10.1159/000282634.
8. Chandra Soma PT· Mendis, KN Enterobius vermicularis in ectopic sites Am J Trop Med Hyg. 1977; 26:644-649 .10.1016/S0022-3426(98)70411-1
9. Mattia, AR Perianal mass and recurrent cellulitis due to Enterobius vermicularis Am J Trop Med Hyg. 1992; 47:811-81510.4269/ajtmh.1992.47.811 PMID: 1471739
10. Yadav YK , Gupta O , Aggarwal R . Cytological diagnosis of parasites presenting as superficial nodular swelling: report of 35 casesJ Parasit Dis. 2012 Apr;36(1):106-11. doi: 10.1007/s12639-011-0095-7 PMID: 23542395.