

Hernial Sac Tuberculosis- An Unusual Presentation of Gastrointestinal Tuberculosis: Case Report with Review of Literature

Dr Neeraj K. Dewanda*, Dr Manojit Midya**, Dr Naresh N. Rai***

* Associate Professor, Department of General Surgery, Government Medical College and associated group of hospitals, Kota, Rajasthan (India)

** Senior Resident, Department of General Surgery, Government Medical College and associated group of hospitals, Kota, Rajasthan (India)

*** Professor and Head, Department of Pathology, Government Medical College and associated group of hospitals, Kota, Rajasthan (India)

Abstract- Gastrointestinal tuberculosis, an endemic disease in India and Africa continues to surprise us with its myriad ways of presentation. In a resource poor country like ours high index of suspicion based on meticulous clinical and vigilant intraoperative examination of the pathological tissues can often unravel coexisting diagnosis. We describe here an interesting case of hernia sac tuberculosis suspected on an unreported physical finding of presence of palpable nodule at the hernial site. Clinical suspicion prompted cautious intraoperative search for any abnormality of the hernia sac and its contents. Firm, nodular swellings were found on the hernial sac wall which were confirmed on histopathological examination as tuberculous granulomas.

Index Terms- Gastrointestinal tuberculosis, Hernial sac tuberculosis, Indirect inguinal hernia, Hernial sac, Tuberculous granulomas.

I. INTRODUCTION

Gastrointestinal tuberculosis (GTB) is a common entity in India,^[1,2] where the protean clinical manifestations continue to challenge the clinicians in its diagnosis and therapy. In a resource poor country like ours high index of suspicion based on meticulous clinical and vigilant intraoperative examination of the pathological tissues can often unravel coexisting diagnosis. We describe here a case of 10-year old male child who presented with a left inguinal hernia and diagnosed as a case of hernial sac tuberculosis.

II. CASE REPORT

A 10-year-old male child presented with a left inguinal hernia of 6 months duration, associated with mild pain but no other significant complaints.

General physical, abdominal and chest examination were normal.

Local examination revealed left sided inguinal hernia. Interestingly on completely reducing the hernia and palpation firm nodularity was felt at the hernial site which kept us curious till the time of herniotomy. The external genitalia was normal.

Preoperative investigations revealed hemoglobin of 11.3 g/dl, total leukocyte counts 7800/mm³ with neutrophils 67.7% and lymphocytes 19.9%, fasting blood sugar 78mg/dl, ESR 18mm in 1 hr (Westergren method). His routine preoperative chest x-ray was essentially normal.

On operation, a left indirect inguinal hernia (omentocoele) was found. A careful visual inspection of the hernia sac and its contents was done due to preoperative physical finding of nodularity. It revealed few firm nodules on the inner surface of the sac. The omentum was grossly unremarkable. Herniotomy was done and excised sac was sent for histopathological examination. In the absence of other abdominal symptoms and evidence of other abdominal organ involvement laparoscopy or laparotomy was not done. Post-operative recovery of the patient was uneventful.

Histopathology report showed multiple granulomas along with Langhan's giant cells and caseous necrosis in the peritoneal tissue background (figs 1 & 2) which were suggestive of tuberculosis.

Postoperatively Mantoux skin test was done which showed a 10x15 mm induration (after 48 hrs) thereby supporting the diagnosis of hernial tuberculosis. The patient was put on standard antitubercular treatment regime by the paediatricians and was doing well at follow-up.

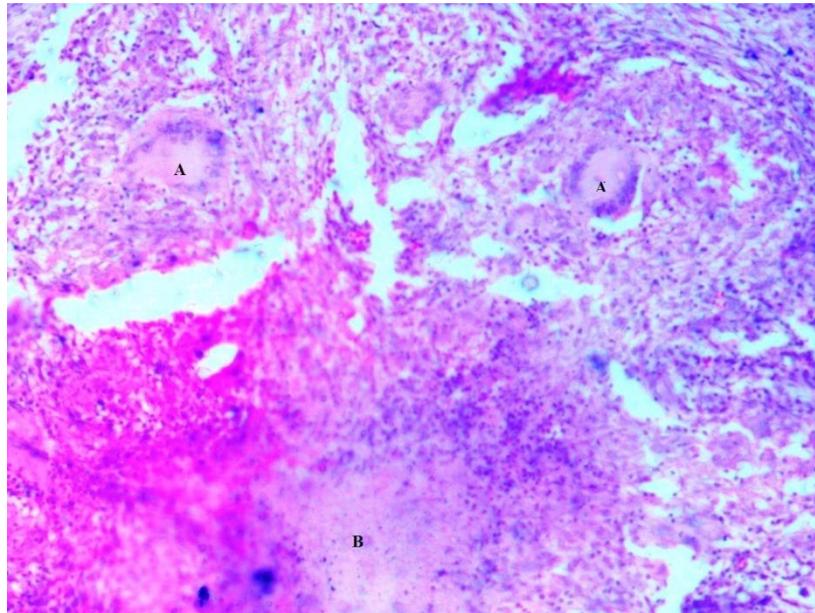


Figure 1: Haematoxylin and Eosin stained section (100x) showing giant cells(marked as A). and caseous necrosis(marked as B).

III. DISCUSSION

GTB is the sixth most frequent site of extrapulmonary involvement in tuberculosis (TB) with rising trends seen with ever increasing incidence of Human Immunodeficiency Virus (HIV) infection,^[1,2]. In decreasing order gastrointestinal involvement include: the ileocecal region, ascending colon, jejunum, appendix, duodenum, stomach, esophagus, sigmoid colon, and rectum,^[3].

A recent study from India found that GTB was seen in 11.2% of children affected with TB of which over 50% have extra-abdominal manifestations,^[4]. Inguinal hernia is one of the commonest surgical problems encountered in day-to-day practice. It is quite surprising, that with such wide prevalence of GTB,^[4] involvement of sac or its contents is not common in patients with inguinal hernia in our country,^[5] even though the momentum is a common content of the sac.

A review of rather meagre literature about Hernial tuberculosis (HT)^[6] states that it involves sac, its contents or both. In children it affects only the sac because the sac is usually empty and the concomitant visceral involvement usually affects the viscera, the hernia sac is always involved and when it affects the hernia sac the entire peritoneal surface is also involved^[6].

The probable mechanism can be that, the congenital groin sac, as in the present case, is the lower most part of the peritoneal sac into which the seeding of the tuberculous bacterium from the peritoneal cavity can occur through gravitational forces.

There are three forms of HT : Miliary or ascitic, ulcerocaseous and fibrous,^[6]. The clinical findings of HT are pain, change in size & consistency of hernia bulge and incarceration which is the most constant finding besides the usual constitutional symptoms of tuberculosis. We describe here an unreported physical finding of presence of palpable nodule at the hernial site.

Histopathological examination of tissue samples like the sac wall for mycobacterium tuberculosis is essential for the confirmation of diagnosis,^[6].

Surgery involves repair of inguinal hernia, wide resection of the sac and resection of the involved omentum. Bowel resection can be necessary in presence of strictures, firm adhesions, localized ulcerative lesions as well as strangulation and incarcerations. All cases must receive full course of antituberculous therapy,^[6].

If at operation the hernia sac is seen to be abnormal or is thickened, then histology should always be performed. However routine histological examination of hernia sacs is not recommended. Kasson and colleagues routinely examined 1020 hernial sacs after surgery^[7]. The incidence of unexpected findings, the discovery of an occult tumor in those specimens which appeared normal at operation was 1 in 1020(0.098%).

As pointed by Vashist et al,^[8] presence of tubercles in omentum or hernia sac during hernia surgery should be biopsied and sent for histopathology to rule out tuberculosis. In our patient there was preoperative suspicion of HT which lead to close visual inspection of the sac tissue and later histopathological examination to confirm our suspicion of HT.

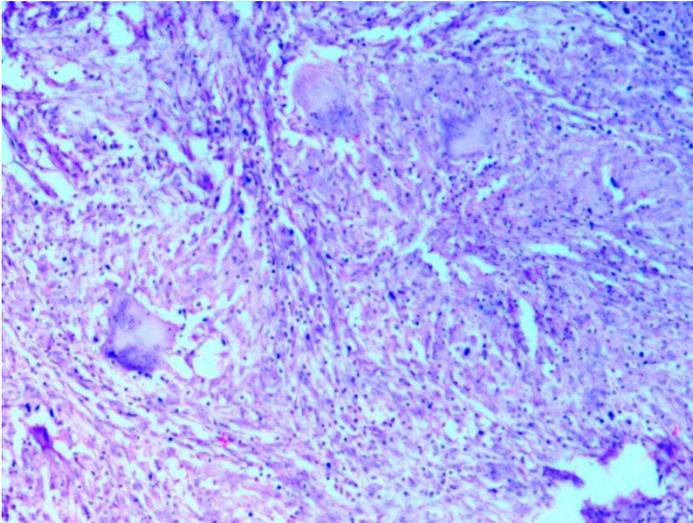


Figure 2: Haematoxylin and Eosin stained section (100x) showing peritoneal tissue on the upper left corner along with granulomas.

IV. CONCLUSION

HT though rare should be kept in mind in tuberculosis endemic countries like India & the continent of Africa. Palpation of the hernia site after complete reduction of hernia should be done preoperatively. Any abnormality of hernia sac found on preoperative physical examination and intraoperatively should be followed by histopathological examination. If confirmed as GTB, it should be promptly treated by standard antituberculous treatment which goes a long way not only in good recovery but also preventing life threatening complications of GTB like intestinal obstruction and bowel perforation.

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REFERENCES

- [1] Sharma MP, Bhatia V. Abdominal tuberculosis. *Indian J Med Res.* 2004;120:305-15.
- [2] Kapoor V K. Abdominal tuberculosis. *Postgrad Med J.* 1998;74:459-67.
- [3] Marshall JB. Tuberculosis of the gastrointestinal tract and peritoneum. *Am J Gastroenterol.* 1993;88:989-99.
- [4] Shah I, Uppuluri R. Clinical profile of abdominal tuberculosis in children. *Indian J Med Sci.* 2010;64:204-9.
- [5] Basrur GB, Naik RP, Doctor NH. Primary presentation of abdominal tuberculosis in an inguinal hernia. *Indian Journal of Surgery.* 2006 May June; 68(3):174.
- [6] Nicolo Enrico. Unexpected findings in inguinal hernia surgery. In: Bendavid Robert, Abrahamson Jack, Arrequi ME, Flament JB, Phillips EH, editors. *Abdominal Wall Hernias: Principles and Management.* New York: Springer-Verlag; 2001. p. 184-191.
- [7] Kasson MA, Munoz E, Lauglin A, Margolis IB, Wise L. Value of routine pathology in herniorrhaphy performed upon adults. *Surg Gynecol Obstet* 1986, 163(6):518-22.
- [8] Vashist M, Singhal N, Verma M, Deswal S, Mathur S. Abdominal Tuberculosis In A Hernial Sac: A Rare Presentation. *The Internet Journal of Surgery.* 2012; 28(2).

AUTHORS

First Author – Dr. Neeraj K. Dewanda, Associate Professor, Department of General Surgery, Government Medical College and associated group of hospitals, Kota-324005, Rajasthan (India). E-mail: drdewanda@gmail.com

Second Author – Dr. Manojit Midya, Senior Resident, Department of General Surgery, Government Medical College and associated group of hospitals, Kota-324005, Rajasthan (India). E-mail: manojitmidya@yahoo.com

Third Author – Dr. Naresh N. Rai, Professor and Head, Department of Pathology, Government Medical College and associated group of hospitals, Kota-324005, Rajasthan (India). E-mail: drnareshrai@yahoo.co.uk

Correspondence Author – Dr. Manojit Midya, Senior Resident, Department of General Surgery, Government Medical College and associated group of hospitals, Kota-324005, Rajasthan (India). E-mail: manojitmidya@yahoo.com
Mobile no. +91-95091-84155