ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 08 | August - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SUPRALEVATOR ABSCESS WITH METRONIDAZOLE RESISTANT ANAEROBIC INFECTION: A CASE REPORT

General Surgery

Dr. Abhinaba Mowar Senior Resident, Department of General Surgery, Malda Medical College And Hospital, Malda, West Bengal, India, PIN- 732101

ABSTRACT

Background- Supralevator abscesses are uncommon and may result from extension of an intersphincteric or ischiorectal abscess upward or extension of an intraperitoneal abscess downward. These are difficult to diagnose. Because of its proximity to the peritoneal cavity, supralevator abscesses can mimic intra-abdominal conditions. To identify the origin of a supralevator abscess prior to treatment is essential(1). **Case Summary-** We are presenting a case of Supralevator abscess which presented as acute pain abdomen. It was a diagnostic and therapeutic challenge due to metronidazole resistant anaerobic infection as well as uncontrolled diabetes mellitus. A 48 years old female presented with right sided abdominal pain for 2 weeks. After clinical evaluation provisional diagnosis of acute calculous cholecystitis with burst perianal abscess was made. Radiological evaluation revealed the diagnosis of a supralevator abscess with an intraperitoneal extension. Routine blood investigations revealed that the patient was also diabetic. The patient was optimized pre-operatively and drainage by laparotomy was done. Pus samples were sent for aerobic and anaerobic culture sensitivity and the patient was put on empirical antibiotics and abdominal drains were put in the abscess cavity. As per the reports of culture sensitivity the antibiotics were changed, importantly Piperacillin and tazobactam started for anaerobic organism resistant to metronidazole which led to clinical improvement of the patient. **Conclusion-** This case report gives us idea about the diagnostic and therapeutic challenges encountered during management of the rare Supralevator abscess; about the emerging resistance against metronidazole among anaerobic organisms and the need of anaerobic culture sensitivity in clinically progressive disease as well as the need of proper management of co-morbidities.

KEYWORDS

CASE REPORT

BACKGROUND

Anorectal suppurative disease mostly results from infections of the anal glands. Anal gland infection results in abscess formation that enlarges and can spread along several planes in several directions(2)

Supralevator abscesses are uncommon and may result from extension of an intersphincteric or ischiorectal abscess upward or extension of an intraperitoneal abscess downward. These are difficult to diagnose. Because of its proximity to the peritoneal cavity, supralevator abscesses can mimic intra-abdominal conditions. To identify the origin of a supralevator abscess prior to treatment is essential(1).

CT scan and MRI are important in evaluation of Supralevator abscess to devise management (3). Management of this type of abscesses includes surgical drainage via appropriate route and proper antibiotic treatment(4,5).

Here, we reported a case of supralevator abscess caused due to synergistic infection by E. Coli and metronidazole resistant Bacteroides sp..

This case report is reported in line with the SCARE criteria (10).

Case Presentation

We present a case of a 48-years-old women living in a rural area with the presenting complaint of pain in right hypochondrium with high grade fever (upto 102 °F). A physical examination on admission to emergency department revealed high temperature of 102°F with tenderness at right hypochondrium suggesting local peritonitis with suspected Acute cholecystitis and on per rectal examination ruptured perianal abscess was encountered. Her heart rate was 107 beats/min and blood pressure was 112/56 mmHg. There wasn't any clinically appreciable icterus or pallor. Her white blood cell count was 19.93 x 10^3/uL and neutrophils were 91%. Other Laboratory results were as following: serum glucose level, 286 mg/dL; serum creatinine level, 0.80 mg/dl; serum bilirubin level, 1.06 mg/dL; serum aspartate amino transferase level, 114.98 U/L and serum alanine amino transferase level, 34.49 U/L; serum alkaline phosphatase level, 199.06 U/L, serum Albumin level 2.03 gm/dL.

Both abdominal and chest radiograph were inconclusive and Ultrasound also revealed only hepatosplenomegaly with gall bladder sludge.

Patient was subjected to contrast enhanced computed tomography of abdomen which revealed extension of perianal abscess into supralevator space and extending through retro peritoneum and parietal abdominal wall upto perihepatic area with air foci within and the diagnosis of Supralevator abscess was made (fig 1). She was subjected to emergency laparotomy and abscess was drained, abscess was found to be totally extraperitoneal without any peritoneal leak or contamination (fig 2,3), abdominal drains were placed into abscess cavity as well as into pelvis for proper drainage, sample sent for culture and sensitivity and patient was put on empirical antibiotic coverage post operatively. Culture sensitivity report revealed infection caused by Escherichia coli and Bacteroides sp. and patient thus was put on targeted antibiotic therapy and regular insulin was started. Even after surgical drainage and continuous drainage via drains patient wasn't showing expected recovery and continuous pus drainage lead to repeat culture both aerobic and anaerobic and CBNAAT for tuberculosis which revealed a metronidazole resistant Bacteroides sp. infection and thus antibiotics were changed accordingly to Piperacillin plus Tazobactam and eventually patient recovered from the disease and was discharged 25 days after operation.

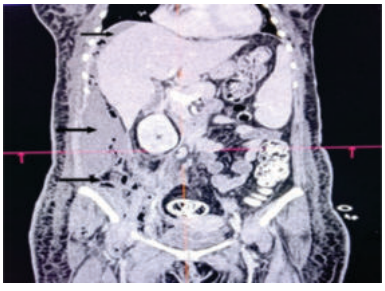

Fig 1, Showing Contrast Enhanced CT Scan Arrows Showing Extent Of Abscess

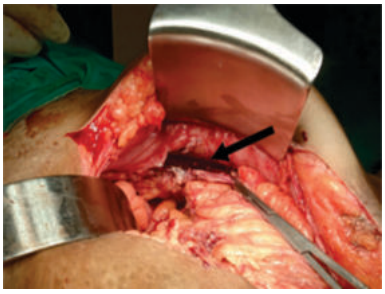

Fig 2, Showing Abscess Cavity (arrow) In Parietal Abdominal Wall With No Intraperitoneal Contamination

Fig 3, Abscess Was Drained And Drains Were Placed During Laparotomy

The patient was discharged with the advise of following up for detection of any fistula formation later and proper management of the same accordingly, but she didn't turn up, may be due to the ongoing Covid 19 pandemic and lost to follow up.

DISCUSSION AND CONCLUSION

Supralevator abscess is the rarest variant of anorectal abscess (less than 10%)(6,7). Diagnosis is challenging due to atypical presentation. Usually treatment is difficult due to incomplete drainage and inability to appreciate true extent of the disease(6). Here we encountered an unusual factor which led to delay in recovery of the patient.

Most supralevator abscess originate from glandular crypts(2,8) but in this case it is not fully understood whether it was an extension of retro peritoneal abscess into perianal space or it was the opposite.

The abscess cavity in this case was so extensive that required an emergency laparotomy for achieving adequate drainage along with debridement of perianal wound also.

The cause attributed to delay in recovery was the finding that etiological agent was Bacteroides sp. which was resistant to metronidazole which was given as a empirical anaerobic coverage and after it's identification and changing of antibiotics accordingly lead to expected recovery.

This case uniquely provides an insight into the basics of management of an abscess as though mostly it is inadequate drainage we need Consider other factors as antibiotic ressistance and the emergence of new ressistant microorganisms while managing cases of abscess particularly deep abscesses where drainage and antibiotics both have role in management.

Definitive surgical management for such patients at a later setting is still controversial(4,5). Published series supported the absence of recurrence or incontinence when definitive treatment performed in the form of marsupilisation(4,9). But in our case due to extensive nature of disease primary surgery was aimed to sepsis control and definitive management was planned afterwards.

REFERENCES

1. Marry R. Kwaan, David B. Stewart Sr., Kelli Bullard Dunn. Colon, Rectum, and Anus. In: Dana K. Andersen, Timothy R. Billiar, David L. Dunn, John G. Hunter, Lilian S. Kao, Jeffrey B. Mathews, Raphael E. Pollock (Eds). Schwartz's PRINCIPLES OF SURGERY. 11TH ed..... :McGraw Hill Education:2019. p1259-1330.
2. N. Akkapulu, O. Dere, G. Zaim, H.E. Soy, T. Ozmen, A.B. Dogrul, A retrospectiveanalysis of 93 cases with anorectal abscess in a rural state hospital, Ulusal.Cer. Derg. 31 (2015) 5–8, http://dx.doi.org/10.5152/UCD.2014.2453.
3. R.G. Beets-Tan, G.L. Beets, A.G. Vander Hoop, R.F. Vliegen, C.G. Baeten, J.M. VanEngelshiven, et al., Preoperative MR imaging of anal fistulas: does it reallyhelp the surgeon? Radiology 218 (2001) 75–84.
4. A. Garcia-Granero, P. Granero-Castro, M. Frasson, B. Flor-Lorent, O. Carreno, A.Espi, et al., Management of cryptoglandular supralevantor abcesses in themagnetic resonance imaging era: case series, Int. J. Colorectal Dis. 29
5. A. Ommer, A. Herold, E. Berg, A. Furst, M. Sailer, T. Schiedeck, German S3guideline: anal abscess, Int. J. Colorectal Dis. 27 (2002) 831–837.
6. M.L. Prasad, D.R. Read, H. Abcarian, Supralevator abscess: diagnosis andtreatment, Dis. Colon Rectum 24 (1981) 456–461.
7. D.R. Read, H. Abcarian, A prospective survey of 474 patients with anorectalabscess, Dis. Colon Rectum 22 (1979) 566–568.
8. R.S. Van Onkelen, M.P. Gosselink, W.R. Schouten, Treatment of anal fistulaswith high intersphincteric extension, Dis. Colon Rectum 56 (2013) 987–991
9. A. Garcia-Granero, P. Granero-Castro, M. Frasson, B. Flor-Lorente, O. Carreno,E. Garcia-Granero, The use of an endostapler in the treatment ofsupralevantator abcess of intersphincteric origin, Colorectal Dis. 16(September (9)) (2014) O335–8, http://dx.doi.org/10.1111/codi.12670.
10. R.A. Agha, M.R. Borrelli, R. Farwana, K. Koshy, A. Fowler, D.P. Orgill, For theSCARE Group, The SCARE 2018 statement: updating consensus surgical CAseREport (SCARE) guidelines, Int. J. Surg. 60 (2018) 132–136.