ORIGINAL RESEARCH PAPER

General Surgery

ABDOMINAL COCOON SYNDROME- PRESENTING AS HOLLOW VISCUS PERFORATION: A RARE CASE REPORT DURING COVID ERA.

KEY WORDS:

Dr Siddhartha Sankar Konwar Assitant Professor Department of General Surgery,Assam Medical College and Hospital.

Dr Debabrata Deb Senior Resident, Department of General Surgery,Assam Medical College and Hospital.

Dr Deeparani Pegu Post Graduate Trainee Department Of General Surgery Assam Medical College and Hospital.

INTRODUCTION :

Abdominal Cocoon Syndrome(ACS), also known as Sclerosing encapsulating peritonitis is a rare cause of intestinal obstruction. It was first described in 1908 by Owtschinnikow and it was defined in 1978 by Foo et al[1]. It is characterized by the partial or complete encasement mainly of the small intestine with the peritoneum, leading to chronic inflammation and fibrosis[2]. Abdominal Cocoon Syndrome is classified into three types according to the extent of membrane encasement. In types I and II, the membrane encloses part or the entire small intestine, respectively. In type III, apart from the small intestine, other organs such as the stomach, colon, and liver are also enclosed[3].Sclerosing encapsulating peritonitis is described as more commonly primary without any identifiable cause ,known more commonly as Abdominal Cocoon Syndrome and rarely it is secondary and has been associated with Abdominal Tuberculosis,Beta Blocker intake[4-6].

AIM:

To present a rare case of abdominal cocoon syndrome presenting as hollow viscus perforation successfully treated at the department of General Surgery ,Assam Medical College and Hospital,Dibrugarh.

CASE REPORT:

A 45 year old man presented to the emergency department with acute onsent severe abdominal pain for 5 days.He complained for abdominal distension and not passing stool and flatus for the same duration.On physical examination,he was dehydrated with tachycardia ,abdominal examination revealed distention of abdomen with generalised tenderness and absent bowel sounds.He was initially admitted in a private hospital where and abdominal erect Xray was done which showed free gas under the diaphgram and dialted bowel loops.He was admitted and put on mornitoring with IV fluids,antibiotics,Nasogastric tube was inserted and urinary bladder was catheterised.All the necessary blood investigations were send and blood was sent for cross matching,patient was prepared for emergency exploratory laparotomy.He was shifted to operation theather after testing negative for Covid 19.

Intraoperatively,a a fibrotic membrane covering all of the abdominal viscera was found.On incising the membrane thick granular pus was found which was drained and some amount sent for culture and senstvity.The thick membranous capsule was covering whole of omentum with small and large intestine with dense interloop adhesions. Incisions were made along the thick membrane in order to release the encased small intestine, and adhesiolysis of the small bowel loops was performed, without resection.Tissue from greater omentum was taken and sent for histopathological examination.Peritoneal lavage was done and two corrugated abdominal drains were placed,one in the hepatorenal pouch and one in the pelvis.

Post operative HPE showed proliferative fibroconnective tissue with choronic non specific granulomatous reaction.Pus C/S was sterile.Patient improved symptomatically and was started empiracially on Anti Tubercular drugs and discharged.Regular follow up was done.Patient improved on Anti Tubercular drugs and further follow up was uncomplicated.

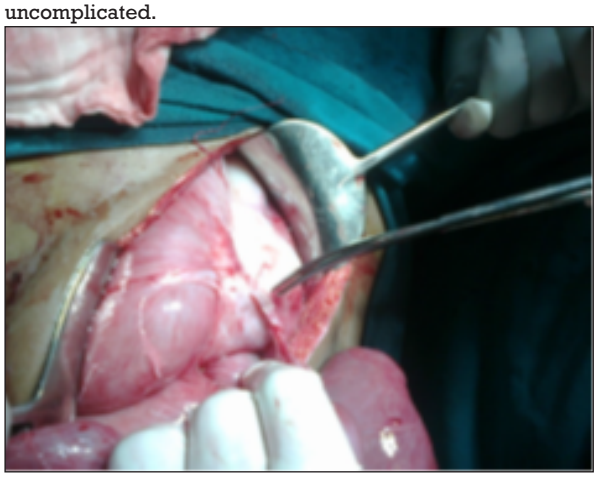

Figure- Intra Operative Findings Of Clumped Bowel Loops.

DISCUSSION:

The idiopathic form of ACS is extremely rare, whereas the secondary form is more common [7].Clinically, the syndrome presents with acute or subacute small intestinal obstruction, with the involvement of the stomach, large intestine, liver, or other abdominal organs occurring infrequently[8]. The idiopathic form of ACS was initially and classically thought to be more common in young females of topial and subtopical areas with different hypothesis trying to justify it,one being theory of retrograde mesnturation with super imposed viral infection[9] However since the disease also presents quite frequently in children and males and no theory could justify the etiology ,there seems little support to these theories [10-12].A systemic review by S. Akbulut in 2015 has showed that ACS is a male syndrome [13].An early preoperative diagnosis and treatment of this syndrome are vital to preserve the circulation of the encased bowel segments and reduce the risk of strangulation [14].Although it is difficult to make a preoperative diagnosis and most cases and diagnosed during laparotomy,a better awareness of the entity and imaging facilities may allow pre opearative diagnosis[15].CT scan can show peritoneal thickening, intestinal obstruction signs, and clustering and fixation of the intestinal loops [16].Most authors suggest exploratory laparotomy as the treatment of choice, involves adhesiolysis and the partial or complete removal of the thick membrane.To avoid post operative leakage and short bowel syndrome,resection should be avoided unless it is strangulated. The histopathological findings generally should reveal intense peritoneal fibrosis with chronic

nonspecific inflammation.Non surgical treatment can be opted for asymptomatic cases if diagnosed preoperatively [17,18].

CONCLUSION:

It is difficult to make a pre operative diagnosis and most cases have been diagnosed incidentally at laparotomy.In most literature reviews,we have come to know that ACS generally presents as Acute Intestinal Obstruction,however our case report has studied a rare case of ACS presenting as Hollow Viscus Perforation.Better knowledge with more studies of this entity with enhaced imaging quality may facilitate more precise preoperative diagnosis and better treatment proctocols.

REFERENCES:

1. K. T. Foo, K. C. Ng, A. Rauff, W. C. Foong, and R. Sinniah, "Unusual small intestinal obstruction in adolescent girls: the abdominal cocoon," British Journal of Surgery, vol. 65, no. 6, pp. 427–430, 1978.
2. D. Sharma, R. P. Nair, T. Dani, and P. Shetty, "Abdominal cocoon—a rare cause of intestinal obstruction," International Journal of Surgery Case Reports, vol. 4, no. 11, pp. 955–957,
3. N. O. Machado, "Sclerosing encapsulating peritonitis: review," Sultan Qaboos University Medical Journal, vol. 16, no. 2, pp. e142–e151, 20162013.
4. Kaushik R,Punia RP et al Tuberculosis –Abdominal Cocoon : a report of 6 cases and review of literature World Journal of Emergency Surgery 2016;1:18
5. Lalloo S,Krishna D et al Case report-Abdominal Cocoon associated with Tuberculosis pelvic inflammatory disease .Br J Radiol 2002;75:1:74-176
6. Eltringham WK,Espiner HJ et al Sclerosing Peritonitis due to proctolol,a report on 9 cases and their surgical management.Br J Surg 1977;64;239-234
7. A. Karan, M. Özdemir, M. T. Bostanci, and E. B. Bostanci, "Idiopathic abdominal cocoon syndrome: preoperative diagnosis with computed tomography," The Turkish Journal of Gastroenterology, vol. 26, no. 2, pp. 193-194, 2015.
8. B. Célicout, H. Levard, J. M. Hay et al., "Sclerosing encapsulating peritonitis: early and late results of surgical management in 32 cases," Digestive Surgery, vol. 15, no. 6, pp. 697–702, 1998. vol. 183, no. 6, pp. 1658–1660, 2004.
9. Foo KT,NG Kc,et al .Unusual small intestinal obstruction in young adoloscents,the abdominal cocoon syndrome;Br J Surg 1978;65:427-430
10. Sahoo SP,Gupta DK et al .Abdominal Cocoon Syndrome in children ,a series of four cases.J Pedia Surg;1996;497-498
11. Yoon YW, Chung JP, et al .A case of abdominal cocoon ,J Korean Med Sci,1995;10;220-225
12. Wig JD,Goenka MK et al .Abdominal Cocoon in male,a rare case of intestinal obstruction,Trop Gastroenterol 1995,16:31-33
13. S. Akbulut, "Accurate definition and management of idiopathic sclerosing encapsulating peritonitis," World Journal of Gastroenterology, vol. 21, no. 2, pp. 675–687, 2015.
14. A. A. Solmaz, M. Tokoçin, S. Arıcı et al., "Abdominal cocoon syndrome is a rare cause of mechanical intestinal obstructions: a report of two cases," American Journal of Case Reports, vol. 16, pp. 77–80, 2015.
15. Nakamoto H. Encepsulating Peritoneal Sclerosis,a clinician's approach to diagnosis and medical treatment.Perit Dial Int 2005;25(4):30-38
16. S. Gupta, R. G. Shirahatti, and J. Anand, "CT findings of an abdominal cocoon," American Journal of Roentgenology, vol. 183, no. 6, pp. 1658–1660, 2004.
17. J. A. A. Awe, "Abdominal cocoon syndrome (idiopathic sclerosing encapsulating peritonitis): how easy is its diagnosis preoperatively? A case report," Case Reports in Surgery, vol. 2013, Article ID 604061, 3 pages, 2013.
18. Celicuot B,Levard H et al Sclerosing Encapsulating Peritonitis early and late results of surgical management in 32 cases.French Association for Surgical Research,Diag Surg 1998,15:697-702.