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CASE REPORT

PERITONEAL INCLUSION CYST IN A YOUNG PATIENT WITH A LONG CLINICAL COURSE DEALT AS ASCITES

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Abstract:

Peritoneal inclusion cysts are reactive, fluid filled lesions of the peritoneal lining, mostly affecting women of reproductive age. It commonly occurs with history of previous abdominal surgeries. Para-ovarian cysts, hydrosalpinx, cystic mesothelioma, giant intra-abdominal cysts with uncertain origin are usually considered in the differential but 'may mimic ascites' when it becomes hugely enlarged. In this case report, we present a 23 -year-old female with no known co-morbidities presented to us with progressive abdominal distention. During excluding causes of abdominal distention, peritoneal cyst was suggested on computed tomography and laparoscopic excision was done. Peritoneal inclusion cyst is a rare entity and quite difficult to diagnose and choose appropriate treatment for individual patient.

Key words: *Peritoneal inclusion cyst, giant intra-abdominal cyst, laparoscopic surgery*

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Introduction:

Peritoneal inclusion cysts (PICs) are uncommon mesothelium-lined abdominopelvic cysts, mostly they are reactive.[1] Giant intra-abdominal cystic lesions are seldom encountered and hard to diagnose pre operatively. Intra-abdominal cysts may remain asymptomatic or may encounter non-specific symptoms like abdominal fullness, bloating and pressure symptoms from hugely enlarged cyst.[2] PICs usually affects women of reproductive age, especially who has a history of previous abdominal surgeries, inflammation, or infection.[1] Due to lack of specific symptom, they are often diagnosed incidentally during imaging or surgery for other cause. PICs have no malignant potentiality and fluid re-accumulation may eventually occur even after surgery, so conservative approach can be preferred as an alternative to surgery.[1] Oral contraceptives with combination of image guided aspiration are an effective method. Here, we present a giant peritoneal inclusion cyst in a 23-year-old female with long history of abdominal distention. This case demonstrates the unique challenges of diagnosing and managing a giant PIC in a young patient.

Case Report:

A 23-year-old female presented with the complaints of abdominal distension for last 10 years. Her symptom was gradual increase in size of abdomen. Once she was diagnosed as a case of ascites due to intestinal TB on the basis of exudative ascitic fluid and was given a trial of anti-tubercular therapy. After 14 days of therapy, she developed antitubercular drug induced hepatitis and stopped taking antitubercular drugs. After proper management, hepatitis was subsided but her abdominal distension was not improved. Thereafter she was thoroughly examined for abdominal distension and diagnostic laparoscopy was done. Tissue was taken from abdominal wall which revealed fibro-collagenous tissue with infiltration of chronic inflammatory cells. On this basis, she was advised antitubercular therapy

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for 9 months. After completion of therapy, she was relatively well for 7 years but abdominal distension was not cured completely. Again, for last 3 years her abdominal distension is gradually increasing & causing abdominal fullness. She has no history of abdominal pain, alteration of bowel habit, fever, chronic constipation, stigmata of CLD, weight loss, hematemesis, malaena, loss of consciousness, puffiness of face, reduced urine output, leg swelling or shortness of breath. She denied any co morbid condition & genetic disorder in the family. She was not on any medication.

Upon physical examination, abdomen was distended, flanks were full, umbilicus centrally placed and inverted, fluid thrill was positive & dullness present all over the abdomen with no shifting dullness. There was no tenderness, rigidity or muscle guarding.

Her routine blood & biochemical examinations revealed no abnormality. An abdominal ultrasound revealed anechoic area covering almost all quadrant of abdominal cavity which pushed the solid organ and bowel loops peripherally.

Abdominopelvic computed tomography scan illustrated a huge cystic mass noted in abdomen arising from pelvic cavity. The cyst cannot be separated from left adnexa. Multiple enhancing nodules noted within cyst. It has displaced bowel loops superiorly.

After discussing with patient, a multidisciplinary board meeting was done and decision to do laparoscopy with excision of cyst was taken. Intraoperatively near about 4.5 L turbid, straw color fluid was drained. No specific attachment of the cyst wall was found. Fluid was sent for study and it was negative for tuberculosis and malignant cell. Histopathology of cyst wall revealed fibro-collagenous tissue lined by single layer of bland, flat to cuboidal epithelium in favor of peritoneal inclusion cyst.

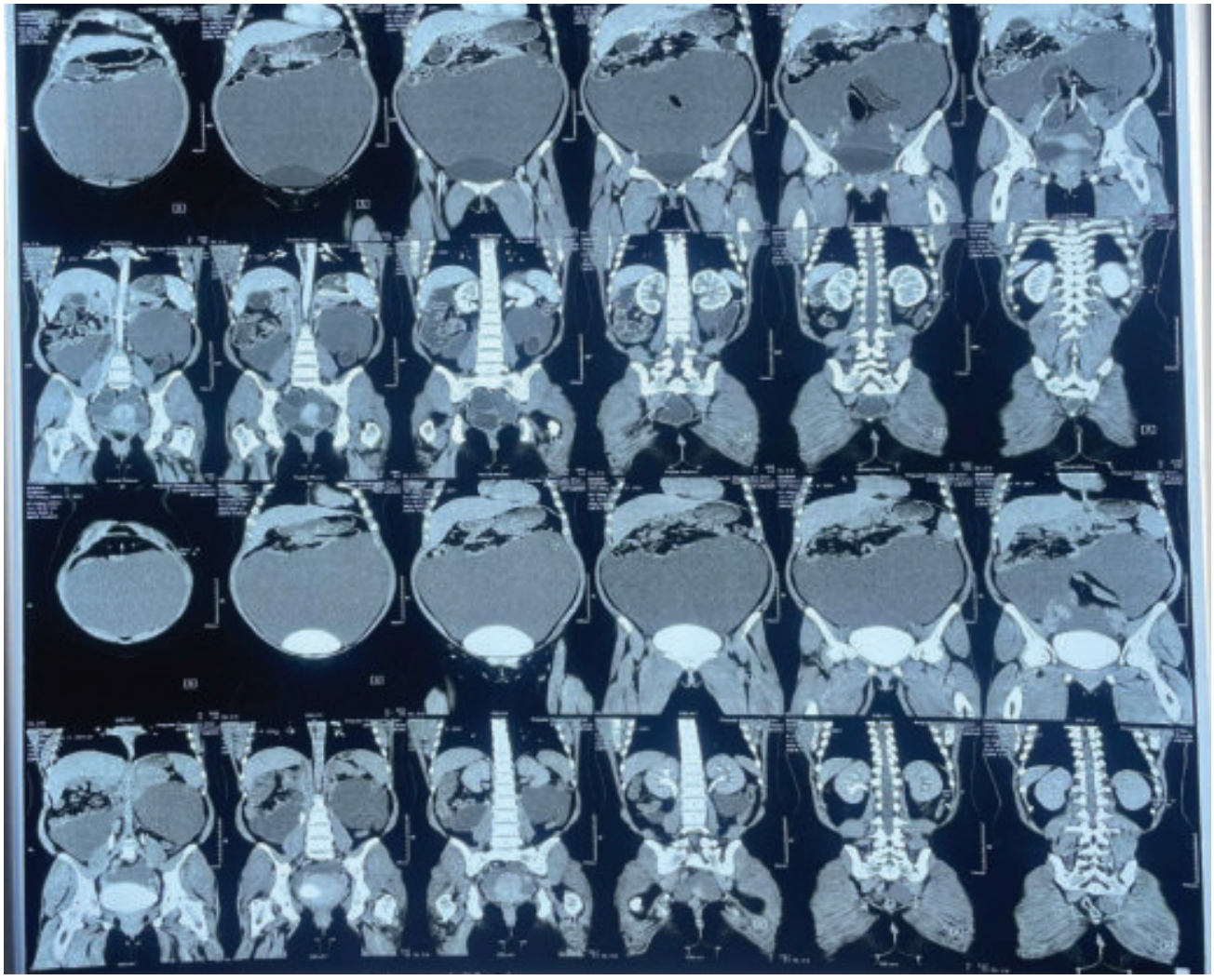

Fig.-1: *CT scan of abdomen showing giant intra-abdominal cyst displacing the bowel loops superiorly.*

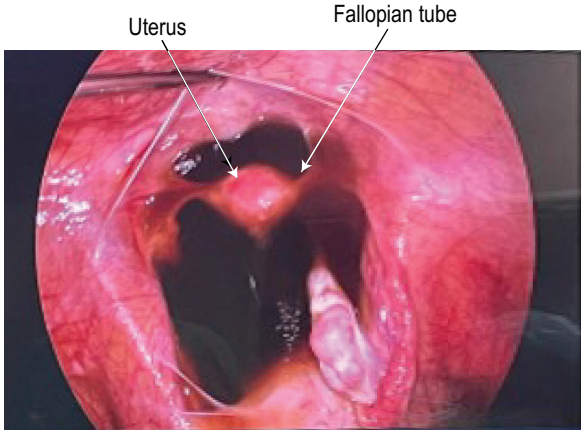

Fig.-2: *Per-operative image from monitor that both fallopian tube and ovaries are free.*

Discussion:

The exact cause of PICs is not clear at all. Although it is thought to be the result of benign inflammatory proliferation or reaction to various factors like prior abdominopelvic surgeries, gastrointestinal inflammation, or pelvic inflammation.[3] In regard to our case, the causes behind her PIC development are peritoneal disruption by prior surgery (diagnostic laparoscopy) or inflammation like history of tuberculosis, even though biochemical and microbiological findings of ascites was not suggestive of tuberculosis.

Though giant intra-abdominal cysts are seldom encountered in recent times due to availability of imaging as they are often picked up at a smaller size. In our case unfortunately ultrasonogram of whole abdomen was done multiple times but cysts could not be identified at early stage rather it was misdiagnosed as ascites. Since the patient has history of abdominal surgery and taking anti tubercular therapy, we had a suspicion of cyst in our mind so we did a CT scan of abdomen, which revealed giant intra-abdominal cyst. So whenever, we noticed a gradual intra-abdominal distention of uncertain etiology, we should emphasize to find out the etiology to minimize our pitfalls of diagnosis.

Various treatment options are available to treat PICs like hormonal management, image guided aspiration, image guided sclerotherapy, potassium-titanyl-phosphate laser ablation and surgical excision.[3] Elective surgeries, including laparotomy followed by excision of cyst or laparoscopy following cyst excision are available. Surgical treatment is usually the most common treatment option due to persistent pressure symptoms for definitive management. Both laparotomic and laparoscopic approaches are valid for excision of PCIs, however laparoscopic surgery is the preferred method because it offers shorter hospital stay, less blood loss, and minimal incision.[4] In spite of low malignant potentiality, PICs have high recurrence rate irrespective of procedures, around 30-50%.[3]

The variation of presentation and subsequent treatment of peritoneal inclusion cysts is evident in the literature. Singh et al. reported a multiparous women with a history of bilateral tubal ligation who presented with gradual lower abdominal pain.[1] Her imaging showed fibroids and numerous, undefined cysts, mimicking ovarian tumor. Ultimately she underwent staging laparotomy only to find healthy ovaries and multiple inclusion cysts, confirmed by histopathology.[1] In a case report by Tamai et al., a middle aged women with a history of left ovarian cystectomy presented with progressive lower abdominal pain.[6] On ultrasonography, intramural myoma was noted but MRI revealed peritoneal inclusion cysts.[6] The similarity in these cases and our case is that, they presented with abdominal distention and history of abdominal surgery, however, the technique of surgery was different, which was laparotomy in their case but diagnostic laparoscopy in our case. Our patient was treated by laparoscopic cyst excision, while Tamai et al. preferred conservative hormonal therapy.[6]

Conclusion:

Although PICs are not commonly encountered, the rising evidence alongside with our case reports emphasizes the significance of considering such a diagnosis in patients with abdominal distention with relevant risk factors. Despite it has low malignant potentiality, prompt diagnosis followed by definite management can aid in decreasing patients' sufferings. Management should be tailored according to individuals' need and presentation. The exact pathogenesis is unclear and recurrence rate is high. Therefore, we need to improve the diagnostic algorithms and more study is needed on management outcomes.

Consent for publication:

Informed written consent was taken from patient to publish details relevant to the disease and management.

Conflict interest:

None

Authors contribution:

All authors were involved in the management of the patient.

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