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GIANT PERITONEAL LOOSE BODY IN PELVIC CAVITY: A RARE CASE REPORT AND REVIEW OF LITERATURE.

Pathology

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ABSTRACT

We present an unusual case of Peritoneal Loose Body encountered in a 35 year old male. These are often found as incidental finding at laparotomy or autopsy. They may be loose and move positions ,but are located in the pelvis due to gravitational factor. Surgical excision is the treatment of choice.

KEYWORDS

Peritoneum, abdominal loose body, Calcified body.

Introduction :
Peritoneal loose bodies(PLBs) are rare lesions which are usually asymptomatic and are incidentally found at abdominal imaging studies, laparotomy or at autopsy[1,2]. These are round to oval loose bodies measuring about 5mm to 25mm in diameter. However, larger PLBs measuring more than 50mm may be encountered and for these the term "Giant PLB" is applied[3,4]. During radiological evaluation with CT/MRI, the diagnosis of loose bodies can be made with certain limitations,because they are movable and change location in abdomen and pose diagnostic difficulty. The differential diagnosis associated with PLB include calcified lesions like: uterine leiomyoma; extra uterine leiomyoma; Gastrointestinal stromal tumour, fibroma, teratoma, tuberculous lymph node and foreign body [2,3]. Histopathological examination is of paramount significance for the final diagnosis,which shows laminated hyalinised area at the periphery and dense sclerotic tissue with calcification in the center [4,5]

Case report :
A 35-year-old male presented with complaints of severe epigastric pain since 6 days, vomiting 3-4 episodes since last 5 days. He also had nausea and low grade fever for 4 days. On general examination, he there had mild icterus. On systemic examination, per abdominal examination revealed tenderness in right hypochondriac region. There was no palpable organomegaly. Laboratory investigation revealed hemogram within normal limits. Liver function test (LFT): serum Bilirubin (T)- 2.8mg% ; serum Bilirubin (D)- 1.6mg% ; serum SGOT-104.7 IU/L ; serum SGPT- 330 IU/L ; serum alkaline phosphatase- 235 IU/L. HBSAg was non reactive. Renal function test were non-cotributory.

Radiological examination : On ultrasonographic examination (**USG**) on the day of admission, there was evidence of 2-3 gall bladder calculi. In addition, a well defined, round to oval ,hypoechoic lesion with central focus of calcification measuring 16mm in diameter was noted in pelvic region, in close proximity with small bowel. This lesion showed mobility hence USG was repeated preoperatively on 5th day of admission and the lesion was located in lower pelvis therefore CECT was repeated.

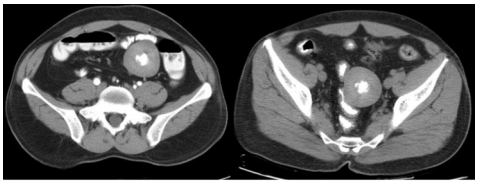

Figure 1 A **Figure 1 B**

Figure 1 A : Computerized Tomography Post Contrast Axial Image ,showing well defined, smooth walled mass lesion in left lumbar region just adjacent to ileum. **Figure 1B :** Plain axial images after a few days shows that the mass has migrated caudally into the pelvis and is seen on lateral aspect of rectum. The lesion does not fill with oral contrast and shows calcification within.

These radiologic findings confirmed the calcified mass was loose body moving in the abdomen. Based on clinical findings and radiological observations cholecystectomy and removal of calcified body was planned. On exploratory laparotomy , conventional cholecystectomy was done and gall bladder with intraluminal multiple black stones were removed. On manual exploration in pelvic cavity, firm to hard loose body was found which was removed from the surgical incision. At operation yellow white, oval "**boiled egg like** "body with smooth outer surface was removed.[Fig -2]

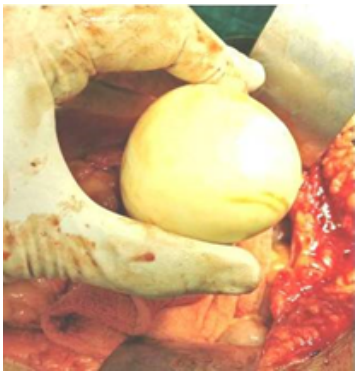

Figure 2 : Photograph showing intra operative **"Boiled Egg like"** appearance of peritoneal loose body

On gross pathological examination the oval shaped PLB measured 5.8 x5.2x4.8cms,had yellow white smooth surface. It was firm to hard in consistency. The cut surface was homogenous with peripheral tan yellow white and central dense yellow circular spot.

On microscopic examination it revealed well circumscribed, unencapsulated tissue with laminated and hyalinised peripheral area. The central area showed zones of calcification and necrotic fat .

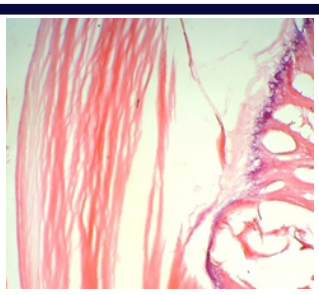

Figure 3: Photomicrograph showing peripheral laminated hyalinised tissue with central area of calcification and necrotic fat. (H& E stain X 400)

Our patient showed very well recovery post operatively ; and was discharged on 5th day of operation. Eight weeks postoperatively he was in excellent general condition, relieved of his complaints

Discussion:

Peritoneal loose bodies (PLBs) are rare lesions with paucity of reported cases in world literature[3]. These are encountered as an incidental finding during surgery for variety of clinical conditions like intestinal obstruction[6], acute retention of urine, infertility[7], abdominal pain. It may be noted that ,in our patient the presentation was acute abdominal pain due to cholelithiasis. On CT imaging, PLB shows concentric round/oval, well defined mass lesion with central calcification, surrounded by peripheral soft tisssue[8]. On MRI PLBs are seen as well circumscribed low intensity mass on T1 and T2 weighted image. The MRI signal is identical to that of muscle and a central high intensity area may be observed on T1 weighted images[9]. The change in position of PLB as encountered in our case has been documented in earlier reports[3,8].

In the present case the size of PLB was large measuring 5.8x5.2x4.8cm which is referred to as " giant peritoneal loose body ". This term has been applied in previous case reports [3,10,11,13]. Intraoperatively as well as grossly, the external surface was yellow white and smooth. This coupled with oval shape as observed in this case has been mentioned as " boiled egg appearance "[11,12]. Central core of yellowish calcified area and peripheral whitish area has been described.

Histopathological finding of paucicellular laminated tissue at the periphery and hyalinised sclerotic centre with calcification admixed with adipose tissue has been well documented [11,12,13].

Peritoneal loose bodies (PLBs)are believed to originate from chronic torsion of the appendix epiploica which leads to infarction and aspectic fat necrosis. Furthermore saponification and calcification of fatty content occures with subsequent detachment due to atrophy of pedicle [3]. This is followed by deposititon of protein and serum with gradual increase in the size [3,8,11]. It is important to note that variability in position of PLB has been reported during imaging studies i.e. Ultrasound, CT and MRI [8,14]. At times when the lesion is calcified internally as in the present case, it might be mistaken as bowel mass when patient undergoes CT scan examination after giving oral contrast. Hence repeat examination with and without oral contrast are warranted to solve the dilemma. Although the lesion is often detected on radiological examination ,pathological examination is of paramount importance for establishing the diagnosis. Surgical excision of the lesion is curative hence remains the treatment of choice.

Conclusion:

The findings in this case indicate that PLBs needs to be considered in the differential diagnosis of calcified body in the abdomen which may be found incidentally. The final diagnosis is arrived at only after radiological and pathological correlation. Surgical removal is the treatment of choice for PLBs.

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