



ORIGINAL RESEARCH PAPER

General Surgery

GIANT PERITONEAL LOOSE BODY IN A PATIENT WITH COVID 19 INFECTION: CASE REPORT

KEY WORDS:

Dr. Praveen babu j*	DNB,SGE Resident, Department of Surgical gastroenterology, Sri Ramachandra Institute of Higher education and research, Chennai, India. *Corresponding Author
Dr Sankar Subramanian	MS, MCH. Professor and Head of the Department, Department of Surgical gastroenterology, Sri Ramachandra Institute of Higher education and research, Chennai, India.
Dr. Suresh Kumar Palaniappa	MS, MCH, Assistant Professor, Department of Surgical gastroenterology, Sri Ramachandra Institute of Higher education and research, Chennai, India.
Dr. Chinni Vikram	MS,SGE Resident,Department of Surgical gastroenterology, Sri Ramachandra Institute of Higher education and research, Chennai, India.
Dr. Abilash K Prasad	MS,SGE Resident,Department of Surgical gastroenterology, Sri Ramachandra Institute of Higher education and research, Chennai, India.

ABSTRACT

Peritoneal loose bodies have been known to exist for hundreds of years. Peritoneal bodies that reach a diameter of more than 5 cm are referred to as "giant" peritoneal bodies (gPLBs). Even while these massive peritoneal masses are symptom-free in most cases, they may be connected to chronic symptoms such as stomach pain or discomfort. gPLBs are frequently misdiagnosed as intraabdominal malignancies or foreign things, resulting in needless surgical interventions. We discuss an unusual case of a 50-year-old man who was treated for moderate covid 19 infection. During evaluation for Covid infection with HRCT Thorax, a mass lesion was identified in the pelvic cavity. One month after getting cured of covid infection, he presented to our outpatient department for further evaluation of a mass lesion in the pelvic cavity. A contrast-enhanced computed tomography scan of the abdomen and pelvis revealed a 6.5 cm x 5.3 cm oval mass in the pelvis. A firm, free-floating object the size of a boiled egg could be scraped out of the pelvis during laparotomy. The diagnosis of gPLB was confirmed by the postoperative pathological investigation, which revealed a Calcified eosinophilic nodule with lamellations. The postoperative time went without a hitch. Peritoneal bodies are unusual intraabdominal bodies that are discovered by chance or present with a variety of symptoms, demanding interdisciplinary treatment.

INTRODUCTION

During laparotomy or autopsy, an intra-abdominal loose body is occasionally seen [1]. It has a diameter of 0.5 to 2 cm in most cases [2, 3]. Adnexal torsion and separation, as well as torsion and separation of epiploic appendages, are thought to induce some intra-abdominal loose bodies [4-7]. Researchers believe that intra-abdominal retention of bodily fluids causes small loose bodies to expand into big loose bodies [4-8]. A huge loose body with a diameter of more than 4 cm is difficult to diagnose before surgery, and it is only seldom recognized and recorded in clinical practices [9]. Before the diagnosis can be verified, it is necessary to distinguish between a big loose body and a tumour or an intra-abdominal foreign body [3]. Although a huge loose body is a rare lesion, it may be beneficial in the diagnosis and treatment of intra-abdominal lesions with unusual characteristics.

The authors performed an exploratory laparotomy on patient who was suspected of having a stromal tumour or teratoma and found a giant loose body measuring 5.3x6.5x5.3cm. As a result, the case is discussed in this work.

Case presentation

A 50-year-old male patient presented to our tertiary care hospital emergency room with acute aggravation of dyspnoea. For 5 days, the patient had been experiencing respiratory difficulties and a low-grade fever, which was originally treated conservatively at home. He developed unexpected respiratory difficulties and was brought to the COVID care center, where HRCT thorax revealed characteristics suggestive with COVID 19 pneumonia with a

CT severity score of 19/40. At the same time, the radiologist discovered a nonspecific mass lesion in the pelvic cavity, which the patient was informed about and told to investigate more once the acute episode had passed. He was discharged after ten days of treatment. He returned to our patient department a month later for further evaluation of his Pelvic mass lesion. However, he does not have any abdominal or pulmonary symptoms now.

His heart rate was 80 beats per minute, his blood pressure was 110/80 mmHg, and his temperature was 36.7 degrees Celsius. The lower abdomen felt painful to the touch, with no guarding or tightness. No mass could be felt. The results of the other systemic tests were normal. Except for a high white blood count of 14,000/cumm with a majority of neutrophils (75%) and a C-reactive protein of 14 mg/dL, all blood tests were within acceptable ranges (elevated). The results of the chest X-ray, urine tests, and EKG were all within normal ranges. Abdominal imaging was performed on him to discover the origin of his symptoms. A standard abdomen X-ray revealed nothing unusual.

The abdomen and pelvis were subjected to CECT (Fig 1), which revealed a 5.3x6.5x5.3cm well-defined soft tissue mass lesion with irregular infiltrating borders on the right side of the pelvis. Within the lesion, there are numerous big calcifications. The lesion's epicenter can be observed in the pelvic mesentery. Within the lesion, post-contrast enhancement can be noticed. The lesion is abutting the posterior wall of the urinary bladder on the anterior side, with a loss of the fat plane. Abuts the right distal ureter and is close

to the iliac vessels on the posterior side. Superiorly, infiltrating the small bowel loops, medially bordering the sigmoid colon with fat plane loss, and inferiorly extending up to the level of the S1 vertebra. The rest of the organs in the abdomen were unremarkable. Imaging could have revealed a Desmoid tumour or sclerosing mesenteritis.

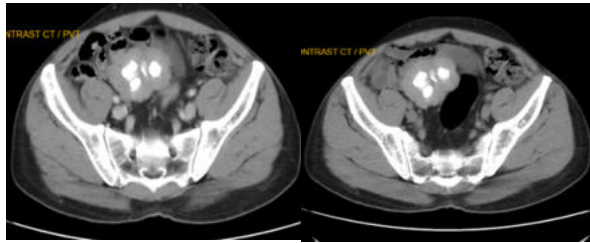


Fig.1: Contrast-enhanced computed tomography of the abdomen pelvis showing a central calcified oval mass in the pelvis.

Meanwhile, a colonoscopy revealed no evidence of a tumor or chronic inflammatory bowel disease. Multidisciplinary opinion was taken during hospitalization and it was decided to perform a laparotomy.

On laparotomy, a hard, oval object with a nodular surface was easily scooped out from the pelvis (Fig. 2 a). It was free-floating without any fixity or adherence to the sigmoid or any other surrounding organ.



Fig. 2. Intraoperatively, irregular, multinodular surfaced oval-shaped mass.

The histopathological examination of the specimen (Fig. 4) revealed laminated strands of hyalinized fibro-collagenous tissue with central fat necrosis confirming the diagnosis of gPLB.

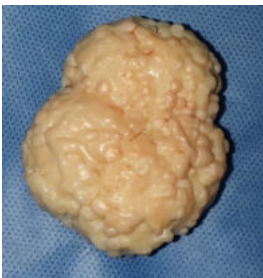


Fig. 3. The loose body appeared as an oval-shaped pelvic mass.



Fig 4. Histopathological examination of the specimen showed Calcified eosinophilic nodule with lamellations with no evidence of malignancy, confirming the diagnosis of gPLB.

The postoperative course was uneventful and his pain gradually subsided. The patient was discharged from the hospital after 4 days in an asymptomatic state.

DISCUSSION

During surgery or autopsy, an intra-abdominal loose body can be discovered by accident [2]. Loose bodies are often similar in appearance, being white or grey with a soft and light border and a density akin to rubber [10]. It can sometimes be discovered in a calcified state. It has a diameter of roughly 0.5 to 2.5 cm and is separated from the inside of the abdominal cavity freely. A loose body with a diameter of 45 mm, on the other hand, is extremely rare. Despite its size, it can be easily removed by laparoscopy without causing any complications.

The torsion and separation of epiploic appendages are hypothesized to cause the formation of an intra-abdominal loose body [4, 5]. Inflammation produced by intra-abdominal adhesion, volvulus, intestinal blockage, or intestinal perforation can cause torsion, strangling, and necrosis of epiploic appendages.

Except for a loose body that has undergone normal calcification, no pathological significance is observed, and there are no pathology or frequency data available. An intraabdominal loose body, on the other hand, has been found to induce symptoms such as abdominal pain and dyspepsia in certain people. Clinical signs such as intestinal blockage may also emerge in severe situations [11].

The loose body of the patient in this case report is assumed to have originated in the intra-abdomen by epiploic appendages and grown to 5.3 cm with inflammation, although the specific pathophysiology is unknown. It's crucial to distinguish an intra-abdominal big loose body from other lesions such rhabdomyomas, fibrous tumours, desmoid tumours, teratomas, ovarian metastases, urinary stones, gallstones, appendicitis, or calcified lymph nodes [3], and CT or MRI can help. A leiomyoma, for example, is made up of muscle tissues or collagen fibers and has a low signal intensity in T1- and T2-weighted MRI scans. As a result, distinguishing a leiomyoma from an intra-abdominal loose body can be challenging.

Contrast enhancement is achieved in a leiomyoma and a teratoma, but not in a loose body, hence CT is somewhat beneficial in the process of discriminating. In addition, the internal region of an intra-abdominal big loose body is homogeneous, which aids in discriminating. Fat necrosis tissues or calcified tissues that appear to derive from the necrosis of epiploic appendages are occasionally seen in the core of the intra-abdominal loose body during microscopic examinations. Those tissues surround the center region and are thin and fibrotic, with no cellular components.

CONCLUSION

In most cases, an intra-abdominal loose body is discovered by accident as a lesion the size of a small bean. A gigantic intraabdominal loose body should be suspected if an irregular mass with calcification of the core region is discovered. Position change imaging will aid in the diagnosis of a peritoneal loose body if one is suspected. For individuals who have been diagnosed asymptotically with a big loose body, the diagnosis is expected to reduce the number of unnecessary surgical interventions.

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