

## Large Peritoneal Loose Body- “Peritoneal Mice”, A Case Report



### Medical Science

**KEYWORDS :** Peritoneal loose body, Mice, Acute abdomen, appendices epiploicae.

**Dr. D.K. Umashankar**

2nd year Postgraduate Department of Surgery Jawaharlal Nehru Medical College, Bhagalpur, Bihar

**Dr. Prof. Upendra Nath**

Professor and Head Department of Surgery Jawaharlal Nehru Medical College, Bhagalpur, Bihar

### ABSTRACT

*Peritoneal loose bodies are rare, found incidentally. The patients are usually asymptomatic. These bodies are found usually during abdominal surgeries or during autopsy. Giant peritoneal loose bodies are rare. Giant loose bodies, measuring more than 5 cm, are rare and only a few cases are reported in the literature. Peritoneal loose bodies arise due to torsion and separation of the appendices epiploicae or due to accumulation of peri-toneal serum in the appendices epiploicae. We present a rare case large peritoneal loose body “peritoneal mice” found during a exploratory abdominal surgery in a 55 years old male patient.*

### INTRODUCTION:

Peritoneal loose bodies are rare and found incidentally at laparotomy. In most cases they are small in size (usually less than 1 cm). Giant loose bodies (more than 5 cm) are very rare and only a few cases have been documented in the literature (1-10). Its exact pathogenesis is not known but the most common origin of these bodies are infarcted appendices epiploicae that get detached and lie loose in the peritoneum and gets saponified and later calcification occurs(1,2).

These loose bodies are usually incidental findings that do not require any specific treatment until they become complicated [3-6]. Peritoneal mice are usually asymptomatic and can be picked up by CT or MRI. Movable peritoneal mice are a diagnostic dilemma (2, 7).

### Case report

A 55-year-old male was admitted in surgery outpatient department with complaints of pain in abdomen, vomiting and he was not passing stools and flatus from last 5 days. There was similar

past medical history of the same condition. On General physical examination patient was febrile, moderately built, moderately nourished. Pallor +. Blood investigations showed anemia, raised total count, raised blood urea and serum creatinine and urine examination were within normal limits. X-rays abdomen showed multiple air fluid levels suggestive of acute intestinal obstruction. Patient was shifted immediately for emergency laparotomy. During surgery there were adhesions in bowel loops. As soon as adhesions were separated, there was a white shiny ball like mass seen and freely mobile, taken out (Figure 1). The body was white in color, oval, smooth of size 9cm in diameter.

The peritoneal loose body was removed and sent for histopathological evaluation. Post operative recovery was uneventful. Cut surface showed central yellow fat surrounded by white laminated periphery. Histopathological examination showed central fat necrosis surrounded by laminated eosinophilic periphery consistent with peritoneal loose body originating from torted appendix epiploica.



**Figure 1- White, shiny 9cm oval ball**

### Discussion-

Peritoneal loose bodies are incidentalomas they measure about 0.5 to 2.5 cm in diameter. Giant loose bodies measuring more than 5 cm can be associated with symptomatology due to mass effect (11)

Littre in the year 1703 was the first to report a case of peritoneal loose body. Though the exact pathogenesis is unknown, it was Virchow (12) who proposed the sequential changes of the peritoneal mice, in his study in the year 1863. According to his view, obesity or infection can lead to increase in the amount of fat deposited in the appendices epiploicae, which undergoes saponification, calcification and progressive obstruction to the blood vessels of the pedicle. Complete vascular obstruction leads to necrosis and atrophy of the pedicle and thus the appendix epiploicae falls into the peritoneal cavity (13). Torsion and inflammation leads to detachment of the appendices epiploicae according to Paterson's observation(14).Recent report shows that a loose body was identified in the presence of a unilateral absence of adnexal structure ,thereby postulating the cause to be as, childhood adnexal torsion with auto amputation and gradual calcification.(15)

Epiploic appendages referred as appendices epiploicae are 1-2 cm thick and 0.5 to 5 cm long, supplied by one or two small colonic end arteries and small draining vessels (16) .Patterson in 1933 suspected that ischemia as a result of torsion or inflammation is dominant etiological factor that led to infarction or amputation.

Peritoneal loose bodies have been described as cause for intesti-

nal obstruction or urinary retention depending on their size and intra-abdominal localization (17, 18) peritoneal loose bodies are also found from sub-acute attacks of pancreatitis. They typically have fat attenuation and cannot be distinguished from other adipose structure. Peritoneal loose bodies by CT imaging reveals, a concentric round or oval shaped well defined mass with central calcification surrounded by a peripheral soft tissue usually located in pelvis. Often the mass will have a distinct fat plane separating it. On MRI, peritoneal loose bodies appear as well circumscribed, low intensity mass on both T1 and T2 weighted images. The mass does not exhibit any enhancement; the lack of enhancement is expressed as there is no blood supply (19)

#### Conclusion:

Parasitized loose bodies are rare entities. Preoperative diagnosis is difficult and histopathological confirmation is mandatory so as to rule out calcified intra-peritoneal masses. No surgical intervention is necessary unless patient becomes symptomatic or when the diagnosis is in doubt. A diagnostic laparoscopy can be done for removal of symptomatic peritoneal mice to obviate unnecessary surgery and to minimize morbidity

## REFERENCE

- Desai HP, Tripodi J, Gold BM, Burakoff R: Infarction of an epiploic appendage. Review of the literature. *J Clin Gastroenterol* (1993, 16(4):323-325)
- Farmlett EJ, Fishman EK, Jones B, Siegelman SS: Torsion of lipoma of appendix epiploica: CT evaluation. *J Comput Assist Tomogr* (1985, 9(2):366-368)
- Ghosh P, Strong C, Naugler W, Haghghi P, Carthers JM: Peritoneal mice implicated in intestinal obstruction: report of a case and review of the literature. *J Clin Gastroenterol* (2006, 40(5):427-430)
- Bhandarwar AH, Desai VV, Gajbhive RN, Deshraj BP: Acute retention of urine due to a loose peritoneal body. *Br J Urol* (1996, 78(6):951-952)
- Takabe K, Greenberg Ji, Blair SL: Giant peritoneal loose bodies. *J Gastrointest Surg* (2006, 10(3):465-468)
- Takada A, Moriya Y, Muramatsu Y, Sagae T: A case of giant peritoneal loose bodies mimicking calcified leiomyoma originating from the rectum. *Jpn J Clin Oncol* (1998, 28(7):441-442)
- Ohgitan D, Kani H, Matsuki M, Kanazawa S, Narabayashi I: A case of giant peritoneal loose body: usefulness of wide window width CT. *Nippon Igaku Hoshasen Gakkai Zasshi* (2004, 64(4):223-224)
- Nomura H, Hata F, Yasoshima T, Kurwahara S, Naohara T, Nishimori H, Nakasjima F, Yanai Y, Ono K, Hirata K: Giant peritoneal loose body in the pelvic cavity: report of a case. *Surg Today* (2003, 33(10):791-793)
- Southwood WF: Loose body in peritoneal cavity. *Lancet* 1956, (271(6952):1079)
- Ortiz FE, Arias VJ, Ruano CA: Loose intraperitoneal body. *Bol Trab Soc Cir B Aries* (1962, 46:690-701)
- Ghanremani GG, White EM, Hoff FL, Gore RM, and Matter, Christ ML: Appendices epiploicae of the colon: Radiologic and pathologic features, (1992:12:59-77)
- Borg SA, Whitehouse GH, Griffiths GJ: A mobile calcified amputated appendix epiploica. *Am J Rentogenol.* (1976; 127: 349-50)
- Harrigan AH: Torsion and inflammation of appendices epiploicae. *Ann Surg* (1917;(66):467-78)
- Patterson DC: Appendices epiploicae and their surgical significance with report of three cases. *N Engl J Med.*(1933;209:1255-9)
- K.Koga,H.Hiroi, Y.Osuga,M.Nagai,T.Yano, and Y.Taketani,"Autoamputated adnexa presents as a peri-tonal loose body," *Fertility and Sterility* ,vol.93, no.3,pp.967-968,2010.
- Ross JA: Vascular loops in appendices epiploicae: their anatomy and surgical significance with a surgical pathology of appendices epiploicae. *Br J Surgery* (1950[148]: 464-4)
- Short practice of surgery, Bailey and Love 26th edition, (p.no:981)
- Gayer MD & Petrovith MD: CT diagnosis of large peritoneal loose bodies; A case report and review of literature. *British Journal of Radiology,*( 84(2011)e83-e8f)
- Ohgitan D, Kani H, Matsuki M, Kanazawa S, Narabayashi I: A case of giant peritoneal loose body: usefulness of wide window width CT. *Nippon Igaku Hoshasen Gakkai Zasshi* (2004, 64(4):223-224)