



IS UNPERFORATED MECKEL'S DIVERTICULUM CAN BE A CAUSE OF SPONTANEOUS PNEUMOPERITONEUM?

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ABSTRACT

Meckel's diverticulum is common congenital anomaly of gastrointestinal system with incidence of 2%. Haemorrhage, obstruction, diverticulitis, perforation is known complications of meckel's diverticulum. Perforation of meckel's diverticulum can cause pneumoperitoneum, and peritonitis. We are presenting a case report of unperforated meckel's diverticulum without inflammatory changes, No gastric mucosa and with blebs over serosal surface presenting as pneumoperitoneum.

KEYWORDS:

Meckel's diverticulum, Spontaneous pneumoperitoneum, Resection and anastomosis, Unperforated, blebs

INTRODUCTION

Perforation of hollow viscera can cause pneumoperitoneum (90%), with perforated peptic ulcer being common. In rare cases the cause may be extra-abdominal and idiopathic, called spontaneous pneumoperitoneum which may pose a diagnostic dilemma, especially when evaluating patient who had no or minimal abdominal findings. Common cause of iatrogenic pneumoperitoneum is laparotomy or laparoscopic procedures. Subclinical small visceral perforation may occur, permitting only the leakage of air and not the bowel contents.

CASE REPORT

35 years male came to hospital complaining of pain abdomen for 6 hours duration which is sudden in onset. Pain started in right upper abdomen and migrates to right iliac fossa, continuous in nature, with no history of vomitings, fever. On examination patient was febrile, tachycardia present. Abdomen was distended, bowel sounds present, tenderness in periumbilical region & right iliac fossa present, guarding, rebound tenderness present. Hernial sites were normal. Per rectal examination was normal.

Plain x-ray abdomen erect shows free air under the right diaphragm [fig1,2]. USG abdomen shows evidence of minimal free fluid in Morrison's pouch. A provisional diagnosis of hollow viscus perforation was made and decided to proceed with emergency laparotomy

Intraoperative findings are very minimal free fluid in the peritoneal cavity, Stomach and duodenum was normal. Small bowel was examined from DJ flexure to IC junction, no perforation of small bowel was found, but there was a meckel's diverticulum [fig3] was found at about 40-50cm proximal to ileo-caecal junction. The diverticulum itself was 4cm in length and broad base, with congestion and blebs over it, and there was no evidence of perforation of diverticulum. Appendix was normal and healthy, large bowel was normal, lesser sac normal. The meckel's diverticulum was resected and end to end anastomosis of bowel was done. Post operative period was uneventful. The HPE report shows multiple sections from diverticular area shows normal histology of small intestine. No evidence of perforation. No gastric mucosa in given specimen [fig4]

DISCUSSION

In some cases it is impossible, however at laparotomy and even at post-mortem examination to determine the cause of the pneumoperitoneum (1). Such as some cases are described in which a pneumoperitoneum developed under tension with no clinical manifestation other than that of abdominal distension (1,2). Some other cases in which a lesion is found in the abdomen but this lesion does not seem to account for the pneumoperitoneum (1,3). Very few cases in which there is an intra-abdominal factor such as carcinoma of the pancreas or pancreatitis in association with the pneumoperitoneum (4,5).

Our interest lies particularly with cases in which a lesion being found in the abdomen which itself does not seem to account for the pneumoperitoneum. In most of these cases some fluid which is straw

colored was present in the abdomen in addition to the gas (6,7). In the present case it is difficult to believe that without a perforation, meckel's diverticulum could be responsible for the pneumoperitoneum. It has been stated that in the condition of gas cysts of the intestine associated with pneumoperitoneum, the cysts may almost entirely disappear. It can, of course, be postulated that there was a small perforation which had sealed itself off, but once again the histology does not confirm this (8,9).

SUMMARY:

Perforated meckel's diverticulum can cause pneumoperitoneum that is common finding. But we presented a case of non perforated, non inflamed meckel's diverticulum with normal histology presented as pneumoperitoneum. The only abnormality we detected is blebs over diverticulum, may be the cause of pneumoperitoneum is air leaked from blebs and sealed off. Similar intraoperative findings seen in case reported by MAURICE HERSHMAN, Senior Surgical Registrar, Wordsley Hospital published in pmj.bmj.com 1952. It was not associated with any pulmonary disease. Knowing the existence of this condition may relieve anxiety in the theatre, but is no excuse for the omission of a prolonged and careful search for a cause.



FIG NO-1. X-RAY CHEST PA VIEW SHOWING AIR UNDER THE RIGHT DIAPHRAGM.



FIG NO-2: X-RAY FILM SHOWING AIR UNDER THE RIGHT DIAPHRAGM



FIGURE NO.3: Meckle's diverticulum showing congested mucosa with blebs.

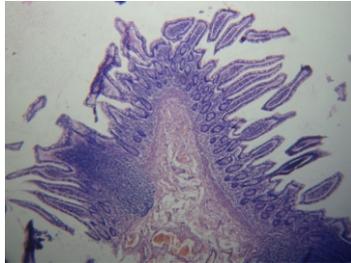


FIG.NO 4.Histological picture shows normal histology of small intestine within diverticulum composed of normal villi and lymphoid follicles along with sub mucosa consisting of blood vessels.

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