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Original Research Paper



General Surgery

ENTEROLITHIASIS PRESENTING AS LOWER ABDOMINAL PAIN _A CASE REPORT.

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ABSTRACT an old lady.	

KEYWORDS : Enterolithiasis, lower abdominal pain, Duodenal diverticulum, foreign body, Infection.

INTRODUCTION-

The prevalence of enterolithiasis ranges from 0.3% to 10%.¹ The death rate of uncomplicated primary enterolithiasis is very low however, mortality up to 3% is reported in poorly built patients who present with obstruction and are diagnosed late.

History

Enterolithiasis was first described by a French physician Chomelin J in 1710 in the medical series of *Historie* de *l'Academie Royal*² as a case of stone formation in a duodenal diverticulum that was discovered during an *autopsy*.

Later on it was found that the cases of small bowel obstruction due to intestinal stones were been reported frequently due to radio-diagnostic advancement.

Sjoqvist initially reported about chemical composition of enterolith in 1908{3}. Pfahler et. Al,³acknowledged the first radiologic diagnosis of alimentary stone in 1915. Scientist Williams 1908 and Edwards ⁴1930 did a great work on the same topic and bought enterolithiasis in lime light. In 1947, Grettve⁵ proposed classification of enteroliths into primary and secondary types. **Types** of enterolithisis.

<u>Primary enterolith</u> are formed within the bowel and secondary enterolith originate from outside the bowel.¹

Common causes of primary enterolith are - stricture formation (intestinal tuberculosis, Crohn's disease (CD), intestinal tumours, incarcerated hernias, intestinal kinking from intra-abdominal adhesions, surgical resection and anastomosis, radiation enteritis etc.), blind pouches, afferent loops, or diverticula.^{1,2}

<u>Secondary enteroliths</u> are formed in the organs outside of the gastrointestinal tract and then migrate to the bowel, with the most common type being gallstones.³

Tuberculous stricture is the most common cause of intestinal stones. $\!\!{}^{\!\!\!4}$

Case report-

59 year old female residing at Parel came with chief complaint of pain in lower abdomen for last 15 days.

There was no history of constipation, abdominal distention, nausea, vomiting, loose motion, bleeding.

Pain did not subside by medication, x ray abdomen erect revealed a radio dense body in small bowel just above pubic area.

CECT Abdomen and pelvis was done and suggested a foreign body in distal jejunum. There was 2.4×3.5 cm radio dense foreign body in the distal jejunal bowel loops without obstruction. There was 1.9×1.8 cm <u>duodenal diverticulum</u> along the medial aspect of 3rd part of duodenum. Otherwise, the stomach, small and large bowel loops were normal. No abnormal bowel dilatation. As there were no signs of obstruction. Peglec powder was given as a trial for swiping of foreign body and serial x rays done for 3 days and at the day 5 the position was same. As it was in distal jejunum OGD scopy and colonoscopy would not be helpful.

After all modalities of conservative management, patient was planned for surgery.

With the written informed consent and all the blood reports and anaesthesia fitness, exploratory laparotomy done with lower midline incision, lleocecal junction identified and traced small bowel. Hard stony consistency of foreign body was felt at distal jejunum, findings confirmed and foreign body fixed and longitudinal incision taken over the bowel and foreign body removed from jejunum that was confirmed as a hard smooth globular blackish stone around 4*3 cm, weighing approximately 25 gm and sent for stone analysis. Post operative period was uneventful and patient recovered.



Molecular study of stone done by infrared spectrometryreported the stone composition as -

Ca. oxalate Monohydrate 10% Ca. oxalate Dihydrate 80% Ca. Urate 10% Size- 26*26 mm

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Weight- 23.06 gm



DISCUSSION

Timely approach is necessary in the management of enterolithiasis. The assessment of underlying pathology is important in establishing effective treatment to prevent intestinal obstruction and perforation. conservative approach of management may be selectively considered for enteroliths less than 2 cm, and in the absence of intraluminal compromise,⁶ provided foreign body passes through stool by purgatives or bulk forming agents. More than 2 cm need surgical management as foreign body can't pass through lleocecal junction through such a narrowest part of the bowel.

Evidences are lacking in proving laparoscopic minimal invasive surgery is better since foreign body itself is a great source of infection. Thus, open surgery remains the mainstay for management.

Jejunal diverticulum is also one of the cause for enterolith formation² Diverticular disease of the intestine clearly predisposes enteric stone formation. While duodenal diverticulosis occurs in up to 22% of the adult population.⁹ The question arises whether this enterolithiasis formed due to duodenal diverticulum, as no other causal factor could be identified.

Chemical Classification⁷ of natural stones - on the basis of their dominant constituent, these are:

1) Siliceous rocks: -

major component is silica (SiO2), the predominant ingredient of quartz sand, as granite and quartzite. Example: Quartzite, Granite, Gneiss, etc

2) Calcareous rocks: -

major component is carbonate (CaCo3, Mg Co3). - Example: Limestone, Dolomite, Marble, etc.

3) Argillaceous rocks: -

major component is clay (alumina Al2O3),- Sedimentary varieties include: clay stones, siltstones and shale -Metamorphic varieties include: phyllites and slates

With reference to all the natural stones and our stone of interest (calcium oxalate monohydrate and dihydrate) we can justify that this is a completely formed inside the body of the patient.

Consent -

Written informed consent was obtained from a patient and relatives for patient's information to be published in this article.

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