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Original Research Paper

General Surgery

CHEMICOBEZOAR

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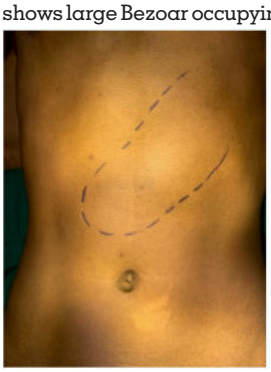
ABSTRACT

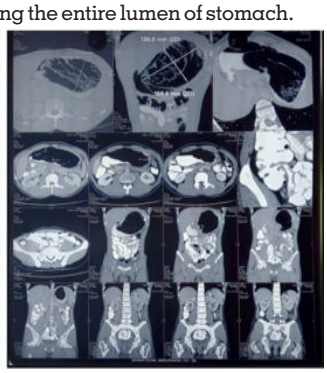
Bezoars are aggregates of foreign body occupying the lumen of the stomach that cannot be digested. Bezoars are classified according to the type of material composing it. Trichobezoars consist of hair, phytobezoar consist of vegetable matter. Trichophytobezoar are mixture of both.in addiction to that there are some rare causes that creates bezoar in the stomach. One such incident where 27 yr old young male presented to casualty with dull aching abdominal pain associated with vomiting and fullness of stomach for one week duration.With history of hospitalisation for self ingestion of air coolant cleaner substance and treated conservatively one month earlier. Upper Esophageal gastric endoscopy shows a large bezoar occupying the entire lumen of stomach. Hence patient managed surgically by entire removal of bezoar . The chemical consumed by the patient is alkali with Ph10-12 that polymerises with gastric acid to form the bezoar. Since it is rare complication of poisoning, this case report is significant .

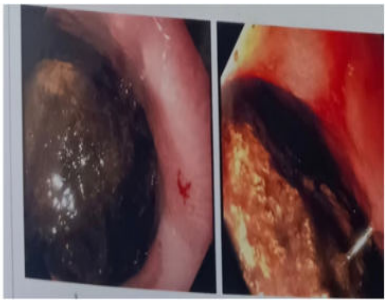
KEYWORDS :

Case Description:

When a 27 yr old male air cooler mechanic presented to emergency with complaints of dull aching abdominal pain for one month duration associated with complaints of vomiting for solid foods and fullness of stomach for past one week with no history of Malena, haemetemesis, obstipation, abnormal bowel habits. With no known comorbid condition. Patient vitals were stable. Examination of abdomen revealed non tender firm ovoid mass over abdomen extending from left subcostal region upto right side of umblicus with smooth surface, ill defined margins shows internal ballotobality also the mass moves with respiration.There is no visible peristalsis, no expansile cough impulse . Other than that entire abdomen was normal. Other system examination shows no significant abnormalities. Suspected to be a case of gastric outlet obstruction patient was investigated with ultrasound abdomen which shows heterogenous mass inside the stomach. Hence contrast enhanced CT was taken which shows fixed filling defect with swirled pattern of gas visualised within gastric lumen of size 16*10 cm with a probable diagnosis of GIST or phytobezoar . Later upper GI endoscopy shows large Bezoar occupying the entire lumen of stomach.







with this findings patient was enquired in detail about the past history. After questioning much he admits that he was admitted and treated for suicidal attempt with chemical poisoning. Later he was apparently normal with mild dull aching abdominal pain often. He has taken the chemical from his work place which is actually used for the purpose of cleaning the rusted coils of air conditioner. Which is a foam base AC coil cleaner with alkaline PH of 10-12 .Due to its foaming action it polymerises with the gastric acid to make foam substance which later enlarges with the intake of food and water.

In this scenario we planned for removal of bezoar. Patient managed surgically by Gastrotomy. 10 cm long incision made obliquely over anterior wall of stomach. As shown in the figure the main portion of the bezoar was 20cm long and the maximum diameter is about 10 cm. It retained the shape of the stomach after removal. The bezoar was removed with utmost care by not breaking the mass. Complete removal of the foamy mass been carried out. Pylorus and duodenum was examined for any remains and the wound was closed. Later postoperatively patient was in nil per oral for 48 hrs . Started on clear liquids on 3rd day with regular diet from 5Th postoperative day and discharged on 6th post operative day. Patient followed up after a week. He has no other complaints. wound healing was good. No other post operative complications.

DISCUSSION:

In recent decades, the incidence of gastric bezoars has gradually increased. Factors that contribute to gastric bezoar formation are complex and differ according to loca- tion; notably, changes in diet have greatly increased their incidence. Gastric bezoars occur when foods aggregate in the stomach, forming a coagulum or lump that cannot be digested. Common clinical manifestations in patients with gastric bezoars include nausea, vomiting, epigastric pain, dyspepsia, and weight loss; common com- plications include bleeding ulcers, obstruction, and perforation.

Classifications of bezoars according to their compositions include diospyrobezoars, trichobezoars, lactobezoars, and pharmacobezoars; notably, the components of gastric bezoars are similar to the components of gallstones. Diospyrobezoars are composed of indigestible fruit or vegetable content, such as persimmons, orange piths, eggplants, grapefruits, and mangos. Gastric bezoar hardness is related to its composition. Because Chinese individuals have a habit of eating persimmons, bezoars containing persimmons (especially giant bezoars) are common in China. persimmon bezoars exhibit hard surfaces and cannot readily pass through the gastrointestinal tract. There are also some case studies on bezoar formation following consumption of Gaviscon – anti reflux antacid(sodium bicarbonate and calcium carbonate) commonly prescribed for GERD .

Gastric giant bezoars are defined as those with diameter >4 cm. Current clinical management approaches for gastric bezoars include medication, surgery, and endoscopy. Medical treatment include inhibition of gastric acid secretion or neutralisation of secreted acids.These approaches are effective for the treatment of recent ,small, or soft gastric bezoars whereas they are often ineffective for old, large, or hard bezoars. Endoscopic treatment include the use of lithotripters, laser lithotripsy. since endoscopic removal often proves unsuccessful in large bezoars gastrotomy is recommended for removal of Giant bezoars from stomach which gives complete recovery for the patient .

Clinical Significance:

In view of the common and easy availability corrosive alkalis are commonly abused, such as sodium hydroxide (NaOH) and potassium hydroxide (KOH).They are found on the trade market as fluids and paste or granular forms. They have a high Ph value, ranging from 8% to 54%,with PH of more than 12 comes as strong alkali . Alkalis are found as regular household components in the detergents, soaps, cleaner solutions and cosmetics. They are used in everyday life for cleaning sanitary surfaces and as drain openers. Clinical presentation of corrosive injuries in the upper gastrointestinal tract depends on the physical state, type and quantity of the corrosive substance.most often people end up with consuming strong alkali which leads to esophageal perforation or stricture .But in some occasions people often consume weak alkali poisoning. In such scenarios this kind of chemicobezoar is one of the rarest presentation which should be acknowledged and patient must be Informed about such complication may arise in future following poisoning.

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