Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/15390
DOI URL: http://dx.doi.org/10.21474/IJAR01/15390

RESEARCH ARTICLE

SIGMOID COLON PERFORATION BY A SWALLOWED OSSICLE

O. Belkouchi[1], B. Aourarh[1], O. El Malki[1], M. Chefchaouni[1], L. Ifrine[1], A. Belkouchi[1], I. Halfi[2], L. Belkouchi[2], L. Jroundi[2] and F. Laamrani[2]

1. Department of Surgery A, Ibn Sina University Hospital, Faculty of Medicine and Pharmacy of Rabat, Morocco.
2. Department of ER Radiology, Ibn Sina University Hospital, Faculty of Medicine and Pharmacy of Rabat, Morocco.

Manuscript Info

Manuscript History
Received: 15 July 2022
Final Accepted: 17 August 2022
Published: September 2022

Key words:-
Peritonitis, Ossicle, Perforation, Colon, Laparoscopy, Surgery

Abstract

After swallowing a foreign body, it passes easily into the digestive tract away from the airway's tract. This situation especially in adults can lead to serious consequences.We report the case of a patient who underwent an urgent laparoscopy for suspicion of appendicular peritonitis, leading rather to the discovery of a perforation of the sigmoid colon by a small chicken bone, ingested three days prior by the patient. The surgical procedure consisted in closing the colonic breach after the removal of the foreign object. The postoperative follow-up was uneventful.The diagnosis of this peritonitis of colonic sigmoidal origin was difficult, confusing, and unknown because of the rarity of this incidence.The early consultation of our patient once the ossicle had been swallowed, could have avoided the emergency surgery, by performing its extraction endoscopically or to follow its migration in the digestive tract viaintermittent X-rays or abdominal scans.

Introduction:-

Accidental digestive perforations due to a foreign body ingestion are common and can involve all segments of the digestive tract. The literature reports mainly perforations of the oesophagus, stomach, small intestine and rectum [1].

It is essential for us to report this case of accidental perforation of the sigmoid colon by a chicken bone swallowed by our patient, because it is uncommon and the prognosis depends on the anatomical site of the perforation, the timing of the discovery, and the surgical procedure performed.

Through this case wealso report a literature review, the different epidemiological, diagnostic and therapeutic aspects of this rare and exceptional accident.

Case Report

A 60-year-old male patient, with no medical history records, was admitted to the ER with an obstructivebowel syndrome evolving for around three days.

Clinical examination shows a fever at 39°celcius, his BP was 100/60mmHg, his pulse rate was 107/min, with a 95% oxygen saturation.Palpation revealeda pelvic abdominal pain, more right sided.Biological exams revealed a

Corresponding Author:- Omar Belkouchi
Address:- Department of Surgery A, Ibn Sina University Hospital, Faculty of Medicine and Pharmacy of Rabat, Rabat, Morocco.

haemoglobin level at 13 g/l, white blood cells at 14000/mm3, CRP 242, urea at 0,31ng/dL, creatinine at 10 mg/dL, blood sugar and lipase levels werenormal.

An abdominal ultrasound performed showed massive peritoneal fluid, thus without any visibility of the appendix and right pelvic pain, a suspicion of appendicular peritonitis was noted.

Unfortunately, no further imaging was required such as a CT scan because the patient did not report the incidental ingestion of the foreign body and was admitted in the emergency room for this deceptive clinical picture similar to appendicular peritonitis therefore surgical treatment was required.

The patient was operated on the basis of this clinical context that is very suggestive of an appendicular origin given its frequency in our emergency surgical setting.

We performed laparoscopy by three trocars only: the optical one sitting in the umbilic at 10 mm, and two others at 5 mm on both sides of the umbilicus. An aspiration of the purulent peritoneal effusion in the abdominal cavity, and peritoneal cleaning were done, however, the appendix seemed normal.

The follow up explorationof the rest of the peritoneal cavity in search of another cause ledto the discovery ofinflammation and agglutination with false membranes on the sigmoid loop which was suggestive at first of a diverticular sigmoiditis. There was a small perforation of about 5 mm of the left colonic wall with the exit of a foreign body, extracted by a fenestrated forceps, which was indeed a fragment of a chicken bone.

The immediate post operative evaluationwasnormal.The patient was put on antibiotics.No identification of germs in the bacteriological sample taken during the operation was identified.The postoperative interrogation of the patient revealed the swallowing of a chicken bone three days prior tosymptoms, which was an important detail initially neglected by our patient.

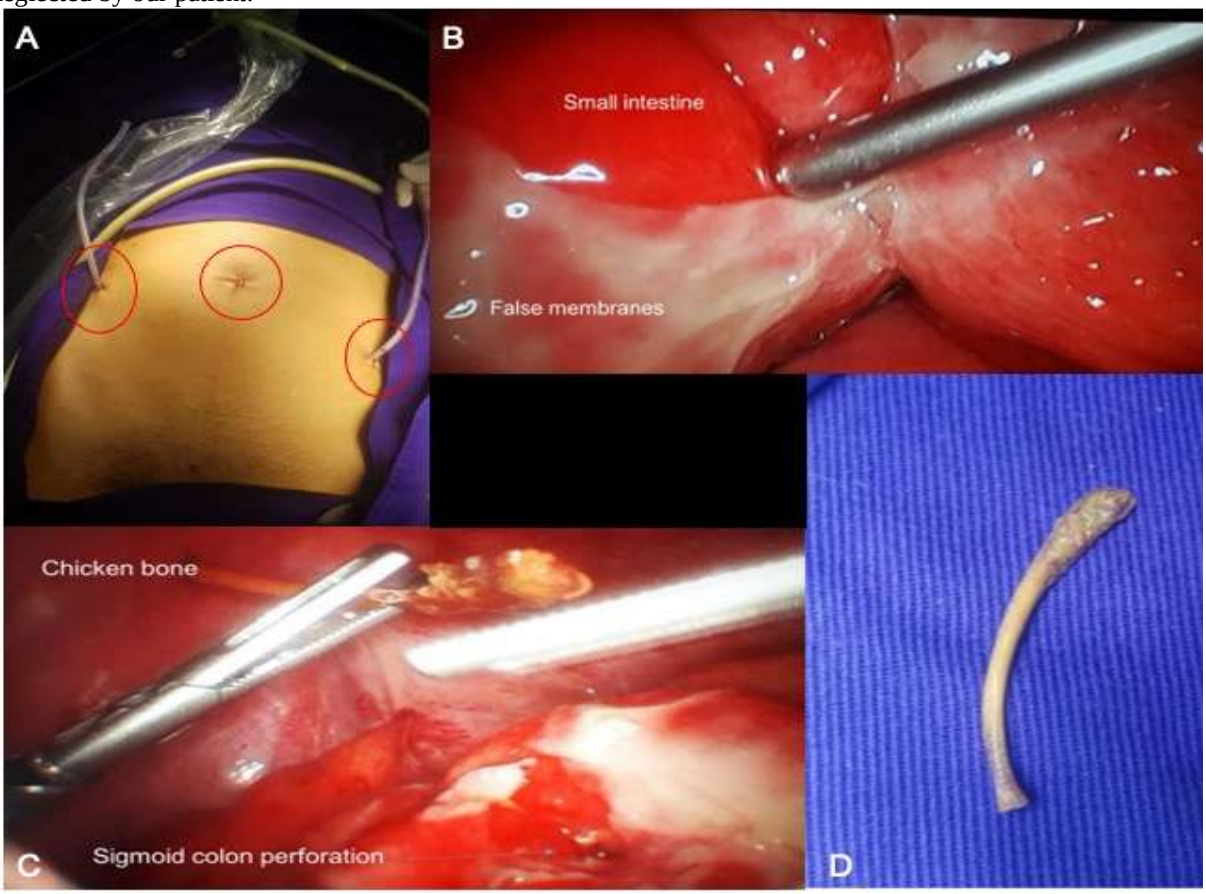

Figure 1:- Intra operative images showing:

A: Position of the 3 trocars and drainage
B: Acute peritonitis
C: Chicken bone extraction
D: post operative image of the extracted chicken bone

Discussion:-

The clinical picture of bowel perforation due to foreign body ingestion is rarely of a sudden onset, the symptoms generally set sub acutely or even chronically, given the covered nature of these colonic perforations, nevertheless colonic perforation on foreign body should be evoked in front of an acute abdomen, especially if the aetiology is not obvious. Perforations complicating sigmoidal diverticulitis are usually largely "covered" by peritoneal structures, especially the greater omentum, but also the adjacent intestinal loops. [2], [3] ,[4], [5], [6].

As a result, the pneumoperitoneum is often small in volume, and may be limited to a few gas bubbles on the deep surface of the anterior abdominal wall, particularly in the umbilical region. [6], [7], [8].The volume of the pneumoperitoneum is very variable and depends on the nature of the perforation. It is therefore important to emphasize on painful and febrile presentations behind which perforations are largely or totally "covered" by the adjacent intestinal-mesenteric structures. In these circumstances, the CT scan is the key examination that allows the inflammatory reactions of the adjacent structures to be identified, abdominal peritoneal and/or pelvic for the sigmoid colon and the small intestine. The changes observed may be located immediately around the site of the perforation or at a great distance, in the form of intra- and/or retroperitoneal diffusion of gaseous fluids, or the formation of liquid collections that must be carefully investigated and related to their cause.

The CT scan will also be invaluable in identifying endoluminal causes such as swallowed sharp foreign bodies, inflammatory, tumoral or accidental traumatic parietal causes, or iatrogenic causes (complicating surgical or interventional, endoscopic or radiological procedures).

The scan is essential in the establishment of an etiological diagnosis, it can show, without injection of contrast product, the foreign body with the type of fishbone or ossicle [2], [6].Injection of contrast may demonstrate indirect signs of perforation.If the perforation is covered pneumoperitoneum may be absent.

In case of open perforation, we look for pneumoperitoneum, peritoneal effusion, or even signs of loco-regional peritonitis in the form of small bowel and colonic parietal thickening, mesenteric infiltration, which was observed in our patient.Onultrasound,small gas bubbles can also be observed within the mesentery near the perforation.

Our patient benefited only from an ultrasound which did not show pneumoperitoneum because the peritonitis was covered, on the other hand it revealed the existence of a peritoneal effusion, a parietal thickening of the small loops, and a right loco-regional mesenteric infiltration.

Colonic perforations are serious because of the major risk of stercoral, hyperseptic peritonitis and are therefore imperative indications for emergency surgery.

Laparoscopy allows more effective washing than open surgery. In the event of open stercoral peritonitis, it is best to perform a temporary colostomy with drainage, the restoration of continuity being, if necessary, deferred from 3 to 8 weeks to be carried out. [9]

The urgency of the management of foreign bodies in the digestive tract is essentially based on its declaration by the patient, the vulnerating nature of the foreign body, and its location in the digestive tract.The therapeutic approachmust be simple and adapted to our means.

It is first of all necessary to detect situations of extreme urgency such as bowel obstruction or peritonitisthrough a rigorous anamnesis followed by a meticulous clinical examination and a minimal radiological assessment (Abdominal plain film X-Ray, Ultrasound or abdominal CT). These extremely serious forms are most often consecutive to the ingestion of sharp, bulky foreign objects.

When the picture is alarming, an emergency laparoscopy is indicated, otherwise, after early ingestion, an oeso-gastro-duodenal endoscopy should be performedto extract foreign bodies from the upper digestive tract and to make

an exact lesional assessment. In the event of failure of endoscopy, medical supervision in a hospital will be required for objects whose configuration and dimensions allow their elimination by natural means. When the patient becomes symptomatic or the foreign body stops progressing, the sanction should be surgical.

Conclusion:-

Colonic perforations by swallowed foreign bodies, such as ossicles are rare. They have variable clinical manifestations which donot always reflect the potential gravity. They are mostly covered and reveal themselves by an acute, subacute or even chronic abdominal pain.

The Computed Tomography Scan has a main role in abdominal emergencies, it is the key element of the diagnosis of colonic perforation by a swallowed ossicle.

However, the perforation may go unnoticed. In the absence of specific anamnestic data,it may be difficult to establish the exact nature of the foreign body.

Laparoscopy makes it possible to establish the etiological diagnosis and to perform a more effective washing than open surgery.

As a prevention, the sensitization of our population, with the dangers generated by the ingestion of foreign bodies, the early consultation of our patient could have avoided the peritonitisby carrying out an endoscopic extraction.

Abbreviations:
BP: Blood Pressure
CRP: C-Reactive Protein
CT: ComputedTomography

References:-

[1] D. Regent et al., «Perforations du tube digestif,» EMC - Radiologie et imagerie médicale - abdominale - digestive, 2012.
[2] C. Balaj et al., «Scanner des perforations couvertes de l'intestin grêle : les 10 commandements,» - Journées Françaises de Radiologie 2011 -, [En ligne]. Available: http://onclepaul.net/wp-content/uploads/2011/07/perforations-couvertes-du-gr%C3%AAle.pdf.
[3] J.C.Letard et al., «Les corps etrangers ingérés,» FMC-HGE, 2003.
[4] Narendar Mohan Gupta et al., «Personal management of 57 consecutive patients with esophageal perforation,» Am J Surg ., 2004.
[5] C. Benjamin et al., «Ingested foreign-body retrieval: a novel new method.,» Gastrointest Endosc., 2007.
[6] J.Maquet et al., «Perforation intestinale grêle sur corps étranger,» Revue médicale de liège, 2017.
[7] Fawzi E Ali et al., «Chronic perforation of the sigmoid colon by foreign body,» Curr Surg . , 2005.
[8] B. Peison, et al., «Perforation of the sigmoid colon following ingestion of a dental plate,» N J Med . , 1995.
[9] C. Faranda et al., «Two-stage laparoscopic management of generalized peritonitis due to perforated sigmoid diverticula: eighteen cases,» Surg Laparosc Endosc Percutan Tech . , 2000.