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Biliary Ileus: A Case Report with a Brief Review

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Abstract:- Biliary ileus is due to the enclosure of a biliary calculus, having migrated through a bilio-digestive fistula. We report the case of a patient admitted for a sub-occlusive syndrome. The abdominal CT scan showed hydroaeric distension of the gallbladder upstream of a large obstructive stone in an ileal loop.

Median laparotomy reveals a large stone straddling the jejunum and the ileum, an umbilicated vesicular bed on a scleratrophic vesicle intimately adherent to the supra duodenal genus. After intestinal emptying, a longitudinal enterotomy is performed in front of the stone, which is extracted by digital expression, then a transverse enteroplasty is performed according to the Mickulicz technique.

Keywords:- *Biliary ileus; bilio-digestive fistula; Mickulicz technique;*

I. INTRODUCTION

Biliary ileus represents 1 to 4% of acute organic bowel obstructions. It is due to intraluminal obstruction by a large enclosed biliary calculus, which has migrated through a bilio-digestive fistula [1]. Its incidence amounts to 25% of cases of lithiasis cholecystitis after the age of 70 years, with a clear female predominance [2].

Its diagnosis is often delayed and mortality rates range from 7% to 50% with an average of 15% and a postoperative complication rate of 50% [3].

Abdomino-pelvic computed tomography (CT) is currently the reference examination in the exploration of occlusive syndromes in adults, as it allows the location, mechanism, cause and signs of severity to be determined [1].

II. PATIENT AND OBSERVATION

Patient aged 73 years, with a history of non-operated lithiasis cholecystitis, admitted for a sub-occlusive syndrome evolving since six days, made of elective cessation of matter associated with bilious vomiting and diffuse abdominal pain predominantly in the right hypochondrium. The clinical examination found a slightly distended abdomen, sensitive especially in the right hypochondrium. The hernial orifices were free. The unprepared abdomen showed hydro-aerosic levels and a pneumobilia (yellow arrow) without any trace of radio-opaque calculus (Fig A). Abdominal computed tomography scan without and with iodine PC injection shows hydroaerobic distension of the gallbladder coves (red arrow) upstream of a large obstructive stone of an ileal loop, associated with localized infiltration of the mesenteric fat, diffuse aerobilia and a scleratrophic gallbladder (Fig B-C). The biological work-up reveals a hyperleukocytosis at 14550 elements/mm3, a corrected natraemia at 137.5 mmol/l, a slight hypokalaemia at 3.3 mmol/l and a functional renal failure with a urea at 1.23 g/l and a creatinine at 15.4 mg/l, but neither cytolysis nor cholestasis . The patient underwent surgery after a period of 03 days of expectation in the hope of eliminating the stone by the lower approach, especially as there were no signs of intestinal distress.

The median laparotomy straddling the umbilicus allowed the discovery of a large stone (3 cm long) (green arrow) in the initial part of the ileum - straddling the jejunum and the ileum - the small intestine upstream was very distended, but without signs of parietal ischemic suffering.

The vesicular bed is umbilicated on a scleratrophic vesicle intimately adherent to the supra duodenal genus (large cholecysto-duodenal fistula respected). Retrograde intestinal emptying and search for other calculi, notably in the duodenum, followed by a longitudinal enterotomy in line with the calculus, which was extracted by digital expression, and then a transverse enteroplasty according to the Mickulicz technique, using a 4*0 Vicryl suture. The suture area was buried by a second entero-enteric suture using the same thread (Fig D).

The postoperative course was simple, liquid feeding was resumed on the 3rd postoperative day.

III. DISCUSSION

Biliary ileus was initially described in 1941 on unprepared abdominal films and is based on Riegler's triad: images of intestinal obstruction, pneumobilia and ectopic gallstone(s). However, this classic semiological triad is present in less than 50% of cases;

Pneumobilia: sign of biliary-digestive fistula. The fistula is formed after recurrent episodes of lithiasis cholecystitis, most often paucisymptomatic.

The location of the fistula is most often cholecystoduodenal; however, it can also be cholecystocolic, cholecystocholedochial, cholecystogastric, cholecystoduodenal or multiple. Pneumobilia may involve the intrahepatic bile ducts, the gallbladder (pneumocholecyst) and/or the common bile duct. It may be missed if the fistula path collapses [4].

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More or less complete intestinal occlusion, with evidence of a transitional zone between a distended intestinal segment upstream of the obstacle, and a flattened segment downstream [2].

It is essential to look for the presence of multiple stones on the computed tomography scan, which are a source of postoperative recurrence. The injection of contrast product during the computed tomography scan allows to look for signs of digestive distress.

Therapeutic management must be early. Two surgical approaches have been described: an isolated enterolithotomy, an enterolithotomy with cure of the cholecystodigestive fistula and cholecystectomy in one or two stages. Isolated enterolithotomy remains widely used; it was the approach adopted for our patient; it decreases the perioperative mortality and morbidity rate. The fistula dries up spontaneously in more than 50% of cases, the rate of recurrence is minimal (less than 5%) and exceptionally requires a surgical revision.

IV. CONCLUSION

The incidence of biliary ileus is increasing, probably due to the ageing of the population and the medicalization of cholecystitis treatment in patients at high risk of surgery. The clinical presentation is very variable and the symptomatology is sometimes crude, as shown in the present case. However, rapid diagnosis is essential in these patients, who are often elderly and have comorbidities. Today, diagnosis is based on an injected abdominal computed tomography scan, it allows positive and differential diagnosis, specifies the exact location of the stone and looks for the presence of multiple stones.

The prevention of biliary ileus would necessarily involve the timely treatment of acute lithiasis cholecystitis, thus avoiding inflammatory and infectious corrosive and perforating phenomena.

- **Consent:** Written informed consent was obtained from the patient for publication of this case report and any accompanying images.
- **Competing interests** : All authors declare no competing interests.
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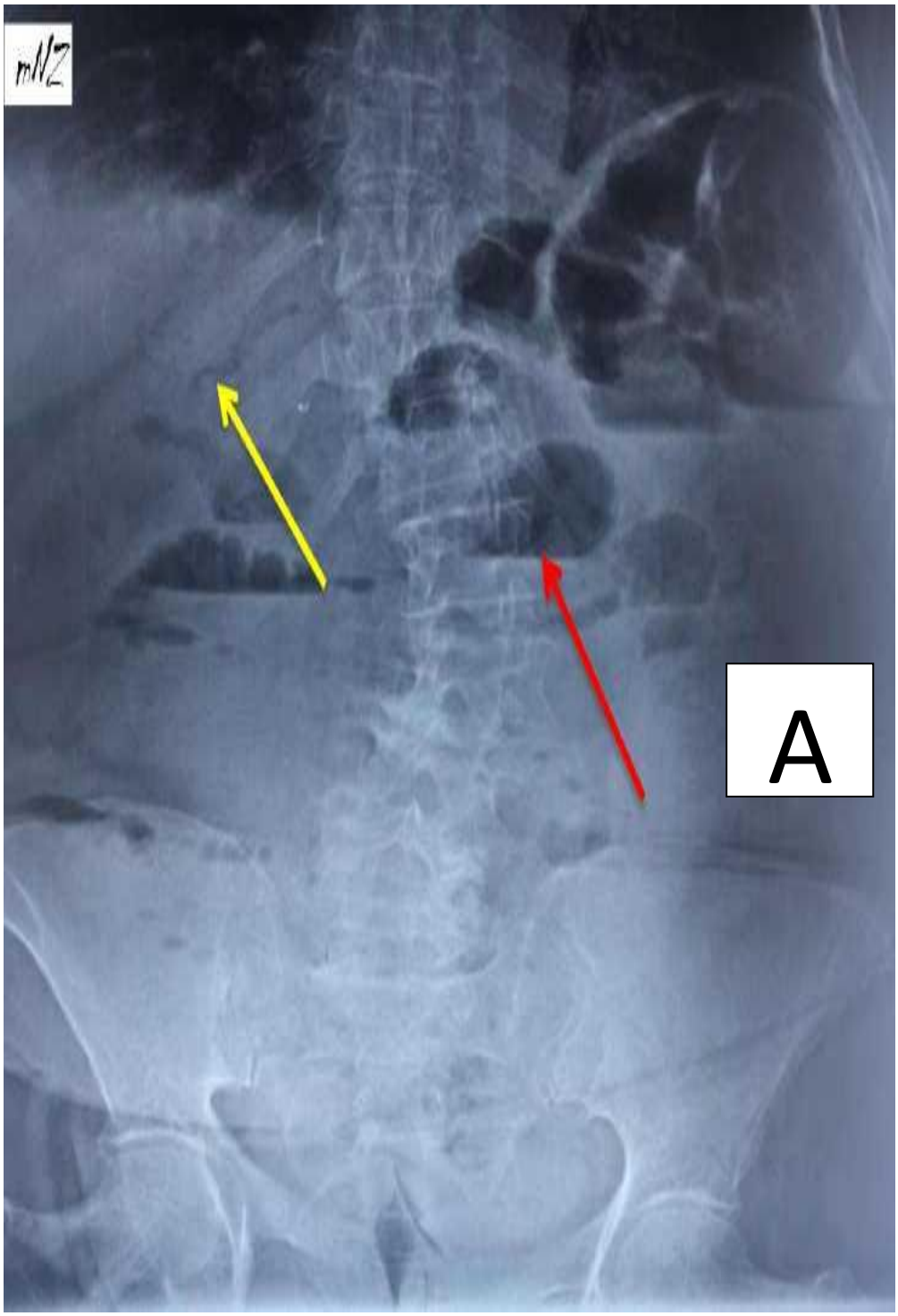
FIGURES, TITLES AND LEGENDS :

- Figure A : ASP: pneumobilia with distended hail
- Figure B : Axial scan section: objectifying an enclosed stone of 1 st lopp with upstream gallbladder distension .
- Figure C : Coronal scan section: Riegler's triad (image of intestinal obstruction, pneumobilia and ectopic gallstone)
- Figure D : Per-op :Longitudinal enterotomy in line with the stone, which was extracted by digital expression, and the suture area was buried by a second entero-enteric suture using the same thread.



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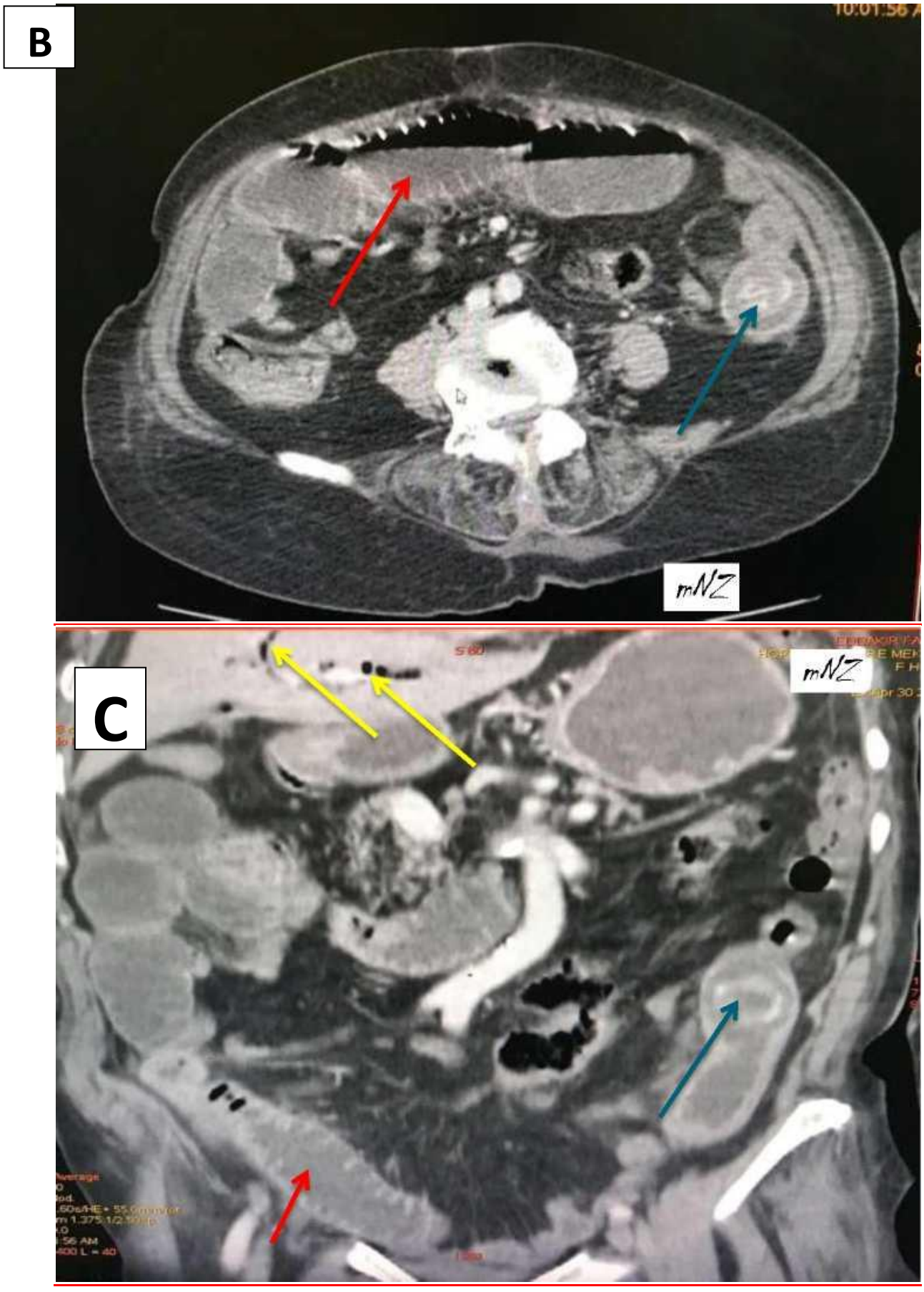

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