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**Case Report**

# Endoscopic retrograde cholangiopancreatography in giant lithiasis of the bile tract: case report and literature review

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## ABSTRACT

In Mexico, the prevalence of biliary disease is 8.5% in men and 20.5% in women. Choledocholithiasis is a frequent clinical entity, predominantly in females and with well-defined risk factors. Obstruction of the bile duct due to stones is called giant choledocholithiasis when the largest diameter of the stone is greater than 15 mm. Endoscopic treatment fails in up to 88% of cases of giant choledocholithiasis. The authors presented the case of a patient suffering from giant choledocholithiasis, of 9 years of evolution, with an endoprosthesis, successfully treated by ERCP (endoscopic retrograde cholangiopancreatography). The selection of patients who will undergo this type of procedure must be careful, multidisciplinary management is essential to maintain the optimal conditions possible for each case, since the risks are usually high, it is a fact that the diameter of the distal bile duct it is the most important predictive factor when selecting the diameter of the balloon to use, since excessive dilation increases the risk of perforation.

**Keywords:** Choledocholithiasis, ERCP, Endoprosthesis, Biliary disease

## INTRODUCTION

In Mexico, the prevalence of biliary disease is 8.5% and 20.5% in men and women, respectively. In those patients older than 60 years, it can represent up to 30% of surgical indications, both emergency and elective. Choledocholithiasis occurs in 14 out of every 1000 patients undergoing surgery, of any age and gender and is present in one in 10 elderly patients operated on for cholelithiasis. The highest incidence is found in the female gender, elderly subjects, patients with overweight or obesity as well as in those undergoing surgery with resection of the terminal ileum, sudden or progressive weight loss, use of some drugs such as cephalosporins third generation and with the presence of hematological diseases.[1]

Different variants to take into account influence the treatment of this pathological entity such as the origin of the stones, their location, quantity, general condition of the patient, impaction and size, the latter being an independent predictive factor.[2] It is called giant choledocholithiasis once the largest diameter of the stone is equal to or greater than 15 mm.[2-5] Classic endoscopic treatment with ERCP has shown good results in choledocholithiasis, not so in giant choledocholithiasis, where failure can reach 88%, even when the stones measure more than 10 mm in diameter.[2,6,7]

## CASE REPORT

Accompanied by her son, on 2 December 2020 at 12:00 am 82 year old female, native and resident of New Italy. She was dedicated to the home, incomplete primary schooling. Relevant antecedents included a failed ERCP in 2011 due to choledocholithiasis and a blood pack transfusion in 2011 due to moderate anemia, so it was decided to leave 2 endoprostheses. Chronic-degenerative

diseases were type 2 diabetes mellitus of 15 years of evolution under current treatment and hypertension of 20 years of evolution in current treatment. Chronic hypochromic microcytic anemia was in current treatment. She denied smoking, alcoholism, drug addiction or the use of controlled medications.

***Current condition***

The patient's son referred that 9 years ago his mother had jaundiced dye, coluria, acholia and hyporexia, which was why she was taken for a medical evaluation, where the previous treating clinician discovered a stone in the bile duct of 20 mm, which could not be extracted, so she decided to leave with 2 stents due to a failed extraction and requested a reevaluation 6 months after the procedure, despite the fact that the patient missed her follow up appointment due to having remained asymptomatic, not even for the following 9 years.

**Figure 1: Papilla of Vater with 2 completely occluded biliary stents.**

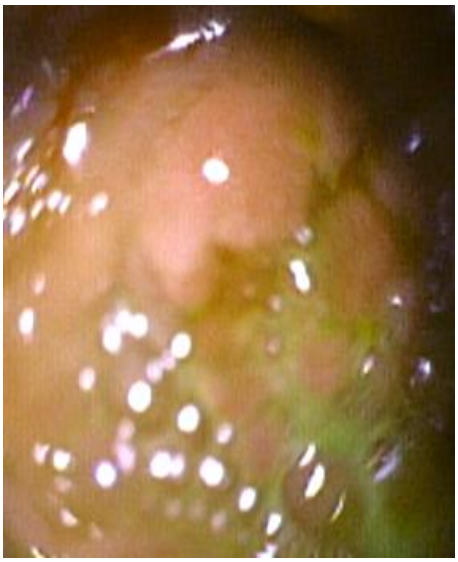

**Figure 2: Evidence of previous sphincterotomy.**

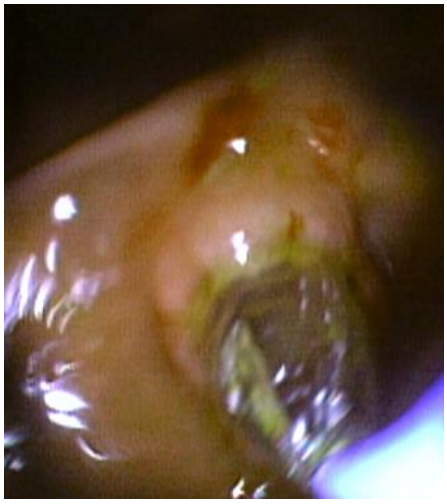

**Figure 3: Sphincteroplasty is performed with a 15 mm plasty probe.**

**Figure 4: 35 mm common bile duct and a giant stone of approximately 30 mm.**

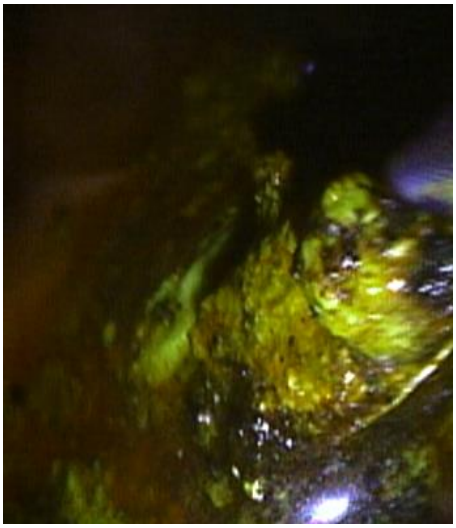

**Figure 5: Lithotripsy.**

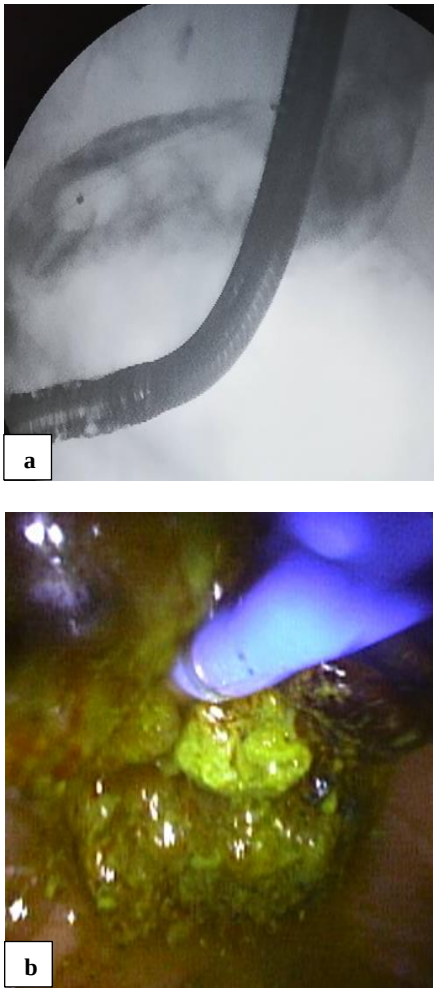


**Figure 6: Balloon catheter cleaning; (a) internal view; (b) external view.**

**Figure 7: Control cholangiography was performed without appreciating a filling defect.**

Fifteen days before contacting the doctor who was currently in charge of the treatment, the patient began with a picture consisting of jaundice and bilirubin in an obstructive pattern. In addition, her medical history was taken into account to admit her. Physical examination was conscious and cooperative, she lacked lucidity at times, she had a slight jaundice tint in mucous membranes and integuments, in addition to itching.

The studies that it brought with it were from 26 November 2020 indicated an Hb of 11.2 gr, Hto 34%, leukocytes 6300, platelets 315,000, glucose 152, urea 51, creatinine 1.12, Na 132, K 3.7, Cl 86. PFH: BT 3.98, DB 2.58, IB, 1.40, AP 1413, icteric plasma stain (++). Pancreatic enzymes were lipase 27, amylase 42. TP was 11.8, TPT was 39, 100% activity, INR 1.0.

Chest RX with increased alveolar weft. Severe dilation of the intra and extrahepatic bile duct as well as of the main pancreatic duct as well as the main pancreatic duct, was demonstrated with a USG of the liver and bile ducts, in addition there was cholelithiasis associated with bile sludge with a bypass catheter inside.

Surgical plan for the day was ERCP. IDx: Sx jaundice/choledocholithiasis. Fasting was indicated, 0.9% saline solution (%) 500 ml pvp, without medication was given.

General IV anesthesia was applied to the patient and local oropharyngeal anesthesia in the prone position, subsequently the patient was taken to the lateral decubitus position. The duodenoscope was introduced to the second portion of the duodenum, where the papilla of Vater was seen with 2 biliary stents, both completely occluded by biliary tartar, which were extracted to leave a normal-appearing papilla of Vater (Figure 1). With evidence of previous sphincterotomy, sphincteroplasty was performed, to extend previous sphincterotomy, with a 15 mm plasty probe, contrast medium was injected and the bile duct is opacified, observing a dilatation of the ducts through fluoroscopy intra and extrahepatic biliary stents with biliary stents, with a 35 mm common bile duct and a giant stone of approximately 30 mm, which fragmented after multiple attempts with the Trapezoid™ RX lithotripter basket (Figure 2-5). The fragments of the stone were extracted with a Dormía basket and finally the common bile duct was cleaned with a balloon catheter (Figure 6 a and b). A control cholangiography was performed without appreciating a filling defect in the bile duct and the procedure was completed without complications (Figure 7).

At 10 am on 3 December 2020, the patient referred calm, tolerant to oral food, with present urination and without having evacuated. She was conscious, cooperative, with a tendency to drowsiness, with adequate coloration and hydration, neck without plethora and cardiopulmonary without compromise, with a depressible, non-painful soft abdomen, without visceromegaly, with normal peristalsis. Tips without compromise. The patient was discharged on 3 December 2020 at 1:00 pm with hygiene measures at home.

On 22 December 2020 a patient accompanied by family members attended a follow up consultation with laboratory tests performed on 21 December where the BT was 1.18 mg/100 ml, BD 0.36 mg/100 ml, BI 0.82 mg/100 ml and normal PFH.

## DISCUSSION

Endoscopic biliary stent placement was performed for various indications in routine clinical practice. Plastic stents were primarily indicated for short term biliary decompression and required removal or exchange after 12-16 weeks, however, patients who became asymptomatic after the procedure may not return for scheduled stent removal and subsequently, presented serious complications.[8] The patient presented was a clear example, where it was worth highlighting the lithotripter role played by the stent during the time it was placed there, which facilitated the therapeutic action implemented, the success of this management was the result of the sum of the decisions made, mechanical lithotripsy, sphincterotomy and sphincteroplasty. Choledocholithiasis was a frequent clinical entity, predominantly in the female sex, the risk factors were clear and the use of ERCP should be restricted to well-selected cases to reduce morbidity and mortality. The quality of the information in the literature was well refined and some studies were validated with others regarding the difficulty of solving the pathology through endoscopic techniques, a fact for which the treatment must be individualized.

## CONCLUSION

The selection of patients who will undergo this type of procedure must be careful, multidisciplinary management is essential to maintain the optimal conditions possible for each case, since the risks are usually high, it is a fact that the diameter of the distal bile duct it is the most important predictive factor when selecting the diameter of the balloon to use, since excessive dilation increases the risk of perforation.

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