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Case Report

Does Age Matter? A Case Report of an ERCP Done in a Centenarian -

JCR Rustia* and EJT Aguila

Institute of Digestive and Liver Diseases, St. Luke's Medical Center Global City, Taguig, Philippines

***Address for Correspondence:** Julius Carlo Rustia, Institute of Digestive and Liver Diseases, St. Luke's Medical Center Global City, Taguig, Philippines, ORCID ID: orcid.org/0000-0002-5054-7202; Tel: +63-917-543-7044; E-mail: juliusrustia@yahoo.com

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Abstract

Introduction: Endoscopic Retrograde Cholangiopancreatography (ERCP) has been advocated as a less invasive therapeutic intervention for the diagnosis and management of various pancreaticobiliary diseases in the aging population. However, the procedure is not without risk. Published literatures have shown different adverse outcomes with the oldest patient documented to be at 97-years-old. This case report of a 99 years and 107 days old male is probably one of the oldest to be recorded to undergo ERCP worldwide, hence is a vital addition to current practice.

The case: This is a case of a 99 years and 107 days old male who had a 1 week history of intermittent epigastric pain radiating to the back, only partially relieved by PPI. He further developed jaundice associated with tea colored urine. On MRCP, there was note of choledocholithiasis causing upstream biliary ectasia. After benefits and risks extensively discussed, patient underwent ERCP where a cholangiogram showed a dilated common bile duct with multiple filling defects. Sphincterotomy was done with no bleeding. There was difficulty inserting the stent due to unstrategic location of the ampulla but after multiple attempts, a 10 French biliary stent was successfully placed with good egress of bile. Post-procedure, he developed Mild Pancreatitis but eventually improved and was discharged 4 days after conservative management.

Discussion: Early diagnosis and treatment of choledocholithiasis is important to improve the prognosis of very elderly patients. If proven to have biliary duct stones on initial diagnostics, ERCP is recommended. Data on the effectiveness and safety of ERCP on people aged 90 years or older are limited but studies have shown that they have increased rates of bleeding, cardiopulmonary events and death, hence should be approached with caution.

Conclusion: ERCP appears to be relatively safe in elderly patients but benefits and risks should be extensively discussed to the patient and his family to help in the clinical decision-making and consent process. Strategies to minimize risk of complications such as pre-procedural risk assessment and medical management serve as preemptive measures and should always be taken into consideration.

Keywords: Endoscopic retrograde cholangiopancreatography; ERCP; Oldest; Choledocholithiasis

INTRODUCTION

Endoscopic Retrograde Cholangiopancreatography (ERCP) is an effective diagnostic and therapeutic procedure for the treatment of biliary or pancreatic tract pathology. In the aging population, it has been advocated as a less invasive therapeutic intervention for various pancreaticobiliary diseases [1]. However, ERCP also has risks of adverse events and complications which include pancreatitis, hemorrhage, perforation, cholangitis and cardiorespiratory problems.

Published literatures have shown different adverse outcomes of ERCP with the oldest patient recorded at 97-years-old [2]. The higher the age, the lesser the clinical experience since physicians and families would tend to choose the more conservative treatment regimen due to the fragility and risks of these elderly population [3]. Given the limited data, recommendations for ERCP varies among the different studies available. Hence, there is indeed a need to document more of these octogenarians, nonagenarians and even centenarians to add in the pool of data which would provide better information for older patients so that they can make more informed decisions about undergoing ERCP.

This case report is based on a 99 years and 107 days old male treated at the St. Luke's Medical Center Global City, Philippines for choledocholithiasis. This patient is probably one of the oldest ever to be recorded to undergo ERCP worldwide, hence is a vital addition to the current practice.

THE CASE

This case is based on a 99 years and 107 days old male, with a good baseline functional capacity, with no other comorbidities except for osteoarthritis, underwent open cholecystectomy 30 years prior who developed 1-week history of intermittent crampy epigastric pain radiating to the back, partially relieved by a proton-pump inhibitor and an antispasmodic. He further developed jaundice associated with tea colored urine and persistent epigastric pain prompting consult.

Initial blood works showed a slightly elevated bilirubin level at

1.69mg/dL with a normal alkaline phosphatase. With suspicion of an obstructive cause of jaundice, an MRCP was done which revealed choledocholithiasis lodged in the distal common bile duct measuring 0.8cm located near the ampullary region. The common bile duct was dilated measuring up to 1.3cm with upstream biliary ectasia as shown in figure 1. The patient was started on Ciprofloxacin and Metronidazole. He was advised to undergo ERCP.

Due to the patient's age, benefits and risks were extensively and repeatedly discussed to the family and patient. After having arrived with the decision, the patient was referred to cardiology service for a cardiac risk assessment who cleared him for the procedure. He was hydrated with Plain Lactated Ringer's (PLR) solution pre-procedure and his antibiotics were continued. Due to unavailability of rectal NSAIDs in our country, IV Diclofenac 100mg and Octreotide 100mcg SQ were given as post-ERCP pancreatitis prophylaxis 1 hour before. He eventually underwent ERCP under general anesthesia. General anesthesia is the standard approach for most first time ERCP in our institution both for patient and doctor comfort. Initial cholangiogram showed a dilated common bile duct with four multiple filling defects approximately 0.8 to 0.9cm in size as shown in figure 2A.

Sphincterotomy was done with minimal bleeding which

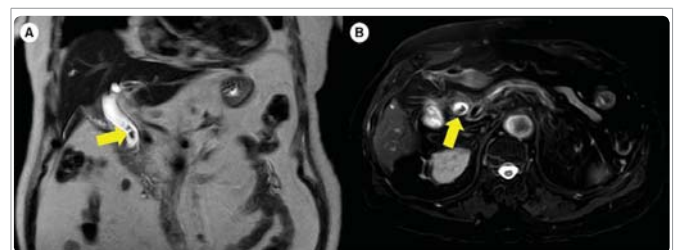


Figure 1: MRCP showing Choledocholithiasis
A-Sagittal view of the MRCP showing the filling defect in the distal CBD
B-Axial view of the MRCP showing a dilated common bile duct with a filling defect.

spontaneously stopped. There was difficulty inserting the stent due to the unstrategic location of the ampulla but after multiple attempts, a 10 French 12 cm plastic biliary stent was successfully placed at the right intrahepatic duct with the distal tip abutting the duodenum as shown in figure 2B-D and figure 3. There was good egress of bile. The pancreatic duct was not cannulated during the procedure. The procedure lasted for 2 hours and 50 minutes with no untoward events.

Post-procedure, patient developed epigastric pain with an elevated lipase level at 10,999 U/L. He was diagnosed to have Mild post-ERCP pancreatitis and was managed conservatively with PLR solution intravenous hydration, nothing per ore and pain medications. Factors that may have caused post-ERCP pancreatitis may have been the long procedure time and the difficulty of the new ERCP nurses and fellow in deploying the stent. Patient was discharged 4 days after. 3 months post ERCP patient is doing well with no recurrence of symptoms. Patient is scheduled for repeat ERCP 6 months after the first.

DISCUSSION

ERCP is one of the more invasive endoscopic procedures, with higher adverse events when compared with other procedures performed by gastroenterologists. Most of the studies have shown that procedural risks proportionally increase with the age of the patient given their comorbidities [4]. In the elderly, there is only a limited

population-specific safety data regarding ERCP hence information from documented cases are increasingly important for patients and physicians to arrive at an effective therapeutic strategy [5]. The increased incidence of pancreaticobiliary disease in the advancing age all the more supports the need for data to be published [6].

Early diagnosis and treatment of choledocholithiasis are vital to improve the prognosis of very elderly patients. If with high index of suspicion, non-invasive work-ups such as MRCP can be done first to be able to aid in the clinical decision making process without yet subjecting the patient to the procedural risks. This way, the indications of an endoscopic procedure is further established so that patients would not be subjected to ERCP if it is not really indicated, thereby avoiding the aforementioned risks. To minimize risks of complications, there should be adequate preparation prior to the therapeutic procedure. A pre-procedural cardiac risk assessment is necessary. If warranted, antibiotics and intravenous hydration should be initiated. Geriatricians advocate the use of a Comprehensive Geriatric Assessment (CGA) to assess the patient's health status to determine their comorbid conditions, polypharmacy, functional level, cognition and nutritional status [7].

While minimizing risks of complications should be done, it is as important to address complications post-ERCP if it occurs. These complications usually can be managed conservatively. The limited data on the effectiveness and safety of ERCP on people aged 90 years

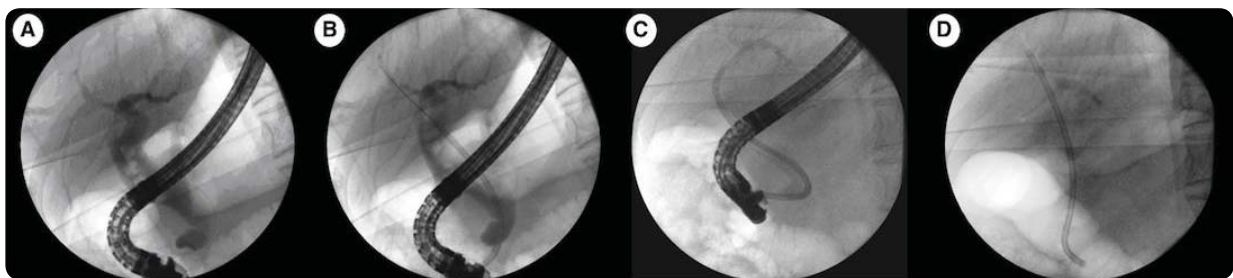


Figure 2: Cholangiogram

A- Initial cholangiogram showed a dilated common bile duct with multiple filling defects

B,C,D- A 10 French 12cm plastic biliary stent was inserted with the proximal tip at the right intrahepatic duct with the distal tip abutting the duodenum.

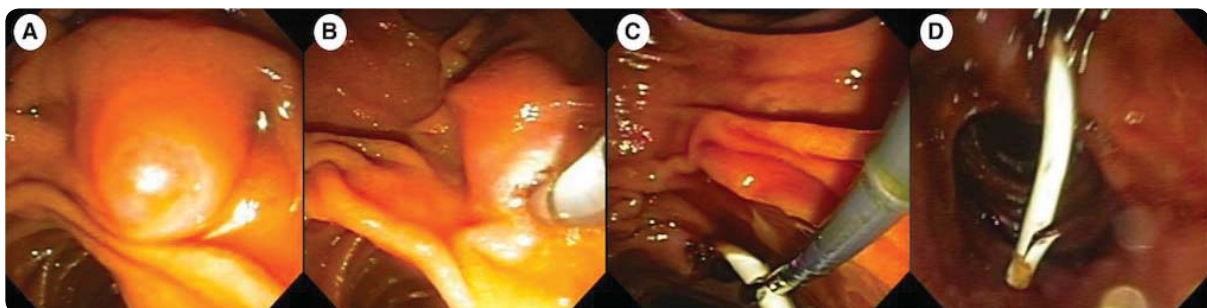


Figure 3: Sphincterotomy and insertion of biliary stent

A-Ampulla seen in the second portion of the duodenum

B-Sphincterotomy being done

C-Insertion of the biliary stent

D-Plastic biliary stent successfully placed with the distal tip abutting the duodenum.

or older have shown that nonagenarians have increased rates of bleeding, pancreatitis, cholangitis, cardiopulmonary events and death, hence should be approached with caution [1]. Other retrospective studies however show no significant differences regarding the rate of post-ERCP complications and ERCP-related deaths on patients aged 90 years and older [6]. Nevertheless, overall complication rates from ERCP are pegged at 5 to 8%. In this case, our patient developed post-ERCP pancreatitis and was managed conservatively.

In summary, this case report illustrates that ERCP can be safely done in a 99 years and 107 days old patient but physicians should be wary of the risks. Our patient's medical profile of having no comorbidities likely played the biggest role in minimizing his risk of developing an adverse event. Monitoring during and after ERCP and prompt detection and management of complications are crucial.

CONCLUSION

ERCP appears to be relatively safe in elderly patients but benefits and risks should be extensively discussed to the patient and his family to help in the clinical decision-making and consent process. Strategies to minimize risk of complications such as pre-procedural risk assessment and medical management serve as preemptive measures and should always be taken into consideration.

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