

## Biliary Implants: Indications and Results

**GK Bennani\*, M Bourehma, I Benelbarhdadi and FZ Ajana**

*Department of Diseases of the Digestive System, Medicine C, CHN IBN SINA- Souissi Med University V-Rabat, Morocco*

**\*Corresponding Author:** GK Bennani, Department of Diseases of the Digestive System, Medicine C, CHN IBN SINA- Souissi Med University V-Rabat, Morocco.

**Received:** December 19, 2019; **Published:** February 28, 2020

### Abstract

The treatment of biliary stenoses is based on the use of plastic or metallic biliary prostheses put in place during endoscopic retrograde cholangio pancreatography, we aim through this study to identify the main indications of biliary prostheses and the short-term results. We collected 107 cases of patients during an 11-year period in whom biliary implants were placed. Biliary stenting was indicated for malignant strictures in 54% of cases and for benign strictures in 46% of cases. Malignant strictures are dominated by tumors of the head of the pancreas, cholangiocarcinomas, while Stenting for benign pathologies is mainly represented by calculations in the absence of total biliary clearance and chronic pancreatitis, The short-term evolution was favorable in all our patients.

**Keywords:** *Biliary Strictures; Tumors of the Head of the Pancreas; Lithiasis; Metallic Prosthesis; Plastic Prosthesis*

### Introduction

The insertion of biliary prostheses has transformed the management of bilio-pancreatic stenosis, it allows to restore bile flow when it is interrupted by a malignant stenosis but also by benign stenosis, The goal is to lift jaundice and pruritus. Two types of prostheses are currently used, plastic prostheses and self-expanding metallic prostheses which are placed at the time of endoscopic retrograde pancreatography cholangio (ERCP) [1].

### Objective of the Study

To identify the main indications for biliary prostheses and the short-term results.

### Material and Methods

This was a descriptive retrospective study carried out between October 2008 and July 2019, including all patients who had benefited from a biliary prosthesis for malignant and benign stenosis. Our data are collected from the CPRE registers.

### Results

Over a period of 11 years, 107 patients were collected, including 45 men and 62 women. As a history 24 of our patients were cholecystomized, The clinical presentation: 73 patients had presented cholestatic jaundice, 14 of the hepatic colic, 8 patients had a pancreatic type pain, 7 patients of bilious vomiting and 5 patients suffered from atypical abdominal pains. Biliary stenting was indicated for malignant

strictures in 54% of cases and for benign strictures in 46% of cases. Malignant strictures are dominated by tumors of the head of the pancreas in 23%, cholangiocarcinomas in 19%, ampullomas in 6% and hepatic compressive metastases in 6%. Stenting for benign pathologies is mainly represented by stones in the absence of total biliary clearance in 32%, chronic pancreatitis in 6%, ruptured liver hydatid cysts in the bile ducts in 5%, trauma to BPV in 3% and primary sclerosing cholangitis in 2%. 76% of the patients had a plastic biliary prosthesis and 22.4% of the patients had a metallic prosthesis. The short-term course was favorable in all of our patients.

### Discussion

The insertion of biliary implants endoscopically has revolutionized the management of biliopancreatic conditions, in particular the palliative treatment of malignant stenosis of the biliary tract [2]. Choosing a device with a metallic or plastic prosthesis is often difficult. Indeed, the data in the literature do not allow to have a definite position, different factors can influence the decision, and it is frequent that it can only be taken during the endoscopic procedure [3-5].

#### Plastic prosthesis

The first prostheses introduced in the 80s by Soehendra were plastic prostheses [6].

Its advantage is the lower costs, and its withdrawable or exchangeable nature [7].

Its disadvantage is the obstruction of the biliary sediment which occurs within a median period of approximately 4 months; this risk is estimated at 30% at 3 months and 70% at 6 months [8].

#### Metal prosthesis

Allow to obtain a large caliber after their release at the level of the biliary stenosis [9]. A distinction is made between non-covered expandable stents and those covered with plastic film Their Advantage is the significantly longer permeability duration than that of plastic prostheses: approximately 6 to 9 months knowing that they are Inextirpable once installed.

In our study, 83 patients had a plastic biliary prosthesis and 24 patients had a metallic prosthesis.

The indication for the placement of a biliary prosthesis is the presence of benign or malignant stenosis.

#### Malignant stenosis

There are two types of prosthesis indications for malignant strictures: temporary preoperative drainage and definitive palliative drainage.

The main indication for biliary prostheses remains the definitive palliative drainage of tumor stenoses: Pancreatic cancer [13], Cholangiocarcinoma [14]: Biliary stenosis under hilar or hilar.

Temporary preoperative drainage most often uses non-extricable metal prostheses but of limited length so as not to hinder subsequent surgery [10] but this type of drainage increases the rate of biliary bacterial colonization, as well as the rate of postoperative infections [11]. Preoperative biliary drainage therefore appears necessary only in certain selected indications [12]: Angiocholitis, Severe jaundice (bilirubin > 350  $\mu\text{mol}$ ), Severe under nutrition, preoperative delay suggesting bilirubin > 350  $\mu\text{mol/l}$  on the day of the chemotherapy or radio intervention preoperative chemotherapy.

#### Benign stenosis

The prevailing etiology in the West is surgery, in particular post-cholecystectomy stenosis. The incidence of post-cholecystectomy stenosis is 0.2 - 0.5% with a recent downward trend [15].

10 - 30% of chronic pancreatitis is complicated by symptomatic bile stenosis. When this is due to edema or a pseudocyst, the response to endoscopic treatment is better than in the case of a predominantly fibrotic stenosis [16].

The presence of ulcerative colitis should suggest primary sclerosing cholangitis, the diagnosis of which is sometimes difficult in the event of early disease. Primary sclerosing cholangitis is one of the rare pathologies for which endoscopic retrograde cholangio-pancreatography (ERCP) for diagnostic purposes only may remain indicated if cholangio-pancreatography by magnetic resonance (CPRM) is inconclusive. Endoscopic treatment of an extrahepatic stenosis, called „dominant“, can prolong survival and delay the need for a liver transplant. It is nevertheless important, in view of the increased risk of cholangiocarcinoma in this pathology, to exclude an etiology malignant stenosis [17].

In our series Biliary stenting was indicated for malignant strictures in 54% of cases and for benign strictures in 46% of cases. Malignant strictures are dominated by tumors of the head of the pancreas in 23%, cholangiocarcinomas in 19%, ampullomas in 6% and hepatic compressive metastases in 6%. Stenting for benign pathologies is mainly represented by stones in the absence of total biliary clearance in 32%, chronic pancreatitis in 6%, ruptured liver hydatid cysts in the bile ducts in 5%, trauma to BPV in 3% and primary sclerosing cholangitis in 2%.

### Conclusion

Endoscopic treatment with placement of a biliary prosthesis is currently the treatment of choice for removing biliary obstruction. The main indication for stenting was the malignant pathology represented mainly by pancreatic tumors and cholangiocarcinomas, followed by the lithiasic pathology. The short-term course was favorable in all of our patients.

### Bibliography

1. Maire F and Sauvanet A. "Palliation of biliary and duodenal obstruction in patients with unresectable pancreatic cancer: Endoscopy or surgery?". *Journal of Visceral Surgery* 150.3 (2013): S27-S31.
2. Shah SK, et al. "Therapeutic biliary endoscopy". *Endoscopy* 34 (2002): 43-53.
3. McDougall NI and Edmunds SE. "An audit of metal stent palliation for malignant biliary obstruction". *Journal of Gastroenterology and Hepatology* 16.9 (2001): 1051-1054.
4. Wagner HJ, et al. "Plastic endoprotheses versus metal stents in the palliative treatment of malignant hilar biliary obstruction. A prospective and randomized trial". *Endoscopy* 25.3 (1993): 213-8.01
5. Prat F, et al. "Predictive factors for survival of patients with inoperable malignant distal biliary strictures: a practical management guideline". *Gut* 42.1 (1998): 76-80.
6. Carr-locke DL, et al. "Mulicenterd, randomised trial of Wallstent biliary endoprothesis versus plastic stents". *Gastrointestinal Endoscopy* 39 (1993): 310
7. Smith MT. "Endoscopic and Percutaneous Biliary Drainage Procedures: Role in Preoperative Management, Diagnosis, and Palliation". *Multimodality Management of Borderline Resectable Pancreatic Cancer*. Springer International Publishing (2016): 51-70.
8. Prat F, et al. "Traitement instrumental non chirurgical des pathologies biliaires intra- et extrahépatiques". *EMC-Hépatologie* 1.1 (2004): 15-34.
9. Escourrou J, et al. "Consensus en endoscopie digestive (CED)". *Acta Endoscopica* 39.2 (2009): 116-121.

10. Bauret P and Blanc P. "Prothèses biliaires et obstructions malignes des voies biliaires extrahépatiques". *Gastroentérologie Clinique et Biologique* 24 (2000): 765-766.
11. Takada T. "Is preoperative biliary drainage necessary according to evidence-based medicine?". *Journal of Hepato-Biliary-Pancreatic Surgery* 8 (2001): 58-64.
12. Vienne A., et al. "Ictères néoplasiques: pour ou contre le drainage biliaire préopératoire?". *Cancéro Digest* 2.3 (2010): 214-223.
13. Laokpessi A., et al. "Traitement endoscopique des sténoses malignes de la voie biliaire principale". *Acta Endoscopica* 34.5 (2004): 728-730.
14. Boulay BR and Parepally M. "Managing malignant biliary obstruction in pancreas cancer: choosing the appropriate strategy". *World Journal of Gastroenterology* 20.28 (2014): 9345-9353.
15. Archer SB., et al. "Bile duct injury during laparoscopic cholecystectomy: Results of a national survey". *Annals of Surgery* 234 (2001): 549-549.
16. Jakobs R and Riemann JF. "The role of endoscopy in acute recurrent and chronic pancreatitis and pancreatic cancer". *Gastroenterology Clinics of North America* 28 (1999): 783- 800
17. Stiehl A. "Primary sclerosing cholangitis: The role of endoscopic therapy". *Seminars in Liver Disease* 26 (2006): 62-68.

**Volume 7 Issue 3 March 2020**

**©All rights reserved by GK Bennani., et al.**