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RESEARCH ARTICLE

THE SURGICAL BILIO-DIGESTIVE BYPASS BEFORE CEPHALIC PANCREATODUODENECTOMY, REPORT OF EIGHT CASES

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Abstract

The cephalic pancreaticoduodenectomy (CPD) has a universally high morbidity and surgery in patients with obstructive jaundice is associated with a high risk of postoperative complications especially in patients with high bilirubin levels. For this reason, endoscopic preoperative biliary drainage (PBD) has been proposed to improve the postoperative courses.. Nevertheless, this solution is not always feasible and the use of a surgical bilio-digestive bypass may be necessary, which may complicate a later surgical procedure. In this work we report a case series of patients who underwent CPD preceded by a double surgical bypass and we analyze its impact on morbi-mortality.

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Introduction:-

Retentionnel jaundice is the usual mode revealing tumors of the bilio-digestive tract (benign or malignant). Resectable malignant tumors, in the absence of metastases or surgical contraindications, are treated with a cephalic duodenopancreatoectomy (CPD) [1,2]. However, this procedure is associated with significant mortality and morbidity, especially in patients with high bilirubin levels. For this reason, endoscopic preoperative biliary drainage (PBD) has been proposed to improve the postoperative courses. Nevertheless, this solution is not always feasible and the use of a surgical bilio-digestive bypass may be necessary, which may complicate a later surgical procedure.

In this work we report a case series of patients who underwent CPD preceded by a double surgical bypass and we analyze its impact on morbi-mortality.

Materials And Methods:-

This is a retrospective descriptive study, spread over 6 years, from January 2015 to December 2021, carried out within the visceral surgery department of the Mohammed V Military Training Hospital of Rabat (HMIMV).

This study was only interested in patients who had undergone a surgical double biliary digestive bypass prior to CPD. Those treated by stent or directly by CPD were excluded. The various demographic and statistical data are reported in Table 1.

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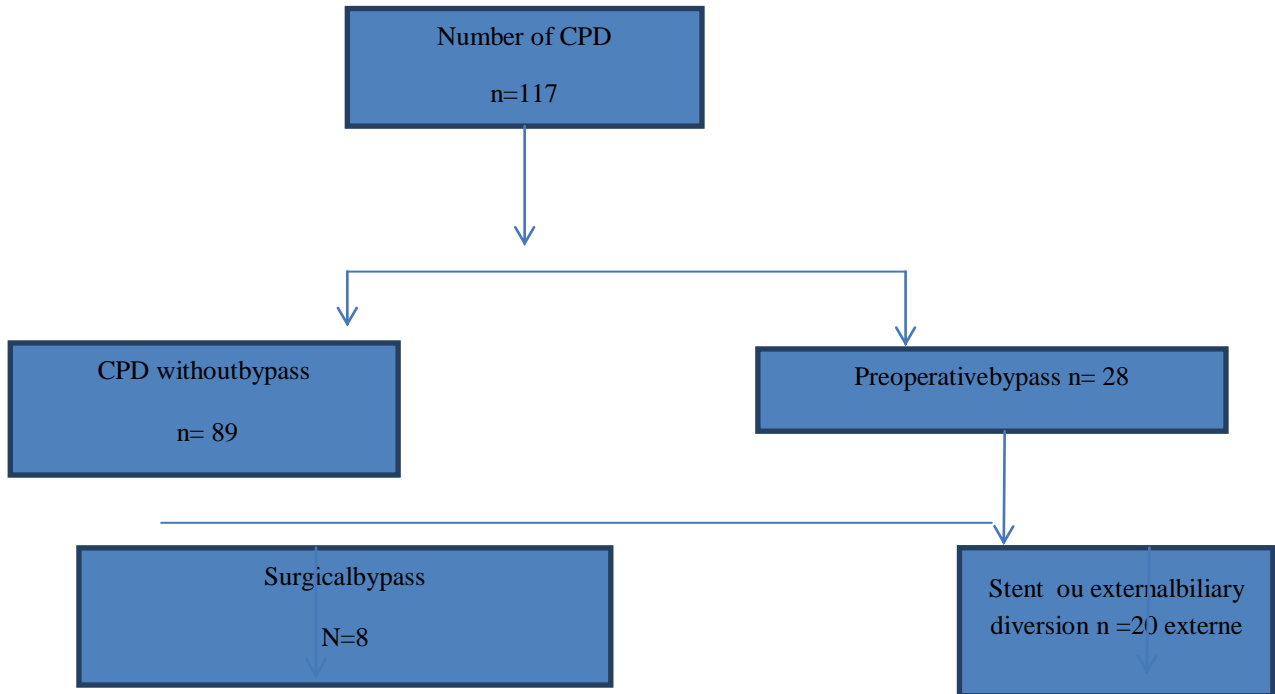


Figure 1:- Selection of patients in our series.

Results:-

During the 6-year study period, 117 cephalic duodenopancreatectomies were performed in our department. The use of a preoperative biliodigestive diversion was necessary in 28 patients, 8 of whom were of surgical type. Among these 8 patients, 5 were women and the median age was 63 years. The indication of a preoperative biliary drainage was retained in front of high levels of direct bilirubin (average= 207 mg/l).The choice of surgical drainage was made following the failure of endoscopic drainage in 4 patients (lower bile duct tumors n=1, pancreatic tumors n=3) and in front of 4 cases of stenosing duodenal tumors.This drainage allowed a significant decrease in bilirubin levels and the 8 patients benefited from a CPD within a period not exceeding 1 month. 3 patients presented a postoperative fistula (pancreatic n=2, biliary n=1). The average duration of CPD was 400 min because of adhesions due to the surgical bypass.



MRCP showing an intrahepatic and extrahepatic duct dilatation down to the level of a pancreatic head mass

Number of cases	8
Male	5
female	3
Age (years)	63,2 ans (58-76)
Tumor	
duodenum	4
CBD (BILE DUCT)	1
pancreas	3
bilirubinelevel	
preoperative mg/l	207
postoperative	52
Type of bypass	
• choledocoduodenaleanastomosis	4
• choledocojejunalanatomosisom Y and gastro jejunal anastomosis	4
Time between Bypass and CPD in days	20 days (15 - 29)
Operating time	400 min
mortality	1
Morbidity	
post op fistula	2
post op bleeding	1

Discussion:-

Prolonged retentional jaundice (more than 3 weeks) leads to biological alterations, infectious risk and coagulation disorders. These conditions put patients at increased risk for post-operative complications such as bleeding, infection, kidney failure and death. Preoperative biliary drainage was therefore proposed to improve the prognosis of these patients by restoring hepatocellular, hemodynamic and immune functions. Thus, the first case of biliary drainage prior to a CPD was carried out in 1935 by Whipple et al who made a surgical bile diversion (cholecysto-gastrostomy) associated with a gastrojejunostomy.[3] Several years later, due to the evolution of radiological and endoscopic means, this surgical bypass gave way to new means of drainage: radiological and especially endoscopic. This resulted in a significant reduction in postoperative complications and length of hospital stay but without a clear effect on mortality compared with immediate surgery. [4] The most recommended type of drainage is endoscopic drainage, but a surgical bypass is still of interest, especially in the case of failure of the endoscopic route, unavailability of equipment (developing countries and third world countries), or the discovery of a tumor whose resectability is doubtful. Several trials have compared the two procedures and concluded that surgical drainage is associated with more morbidity and length of hospital stay than endoscopic drainage [5,6]. Other studies have also associated surgical drainage with a much higher hospital cost than endoscopic drainage. [7]

Conclusion:-

Endoscopic drainage of the biliary tract before cephalic duodenopancreatectomy reduces the morbidity and mortality of this major procedure. Surgical drainage of the biliary tract is always an alternative treatment in case of failure or impossibility of endoscopic treatment.

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