Biliary drainage in patients with extrahepatic bile duct cancer and obstructive jaundice

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Background

The malignant stenosis of extrahepatic bile ducts mostly affect confluence of the right and left hepatic duct (Klatskin tumors), followed by adenocarcinomas with distal location (periampullary tumors) and tumors of middle part. Biliary drainage is an important part of the treatment of extrahepatic bile ducts tumors. There are some contradictions on different types and methods of resolving the obstructive jaundice. The aim of our study is to present and analyze the results of the application of different types of biliary drainage in patient with malignant stenosis of extrahepatic bile ducts.

Methods

Between 2009-2014 year in the Department of General and Hepato-Pancreatic Surgery were treated 64 patients with extra hepatic bile duct cancer, complicated with obstructive jaundice. The distribution of men to women is 1.37:1. The average age is 64 years. According to the classification of Longmire with perihilar tumors were 31 patients, middle part of the biliary tract was affected in 2 patients and 31 patients was with distal part lesions (10 with adenocarcinoma of common bile duct and 21 with adenocarcinoma of papilla Vateri). According to the classification of Bismuth-Corlette, with type I was two patients, with type II – 3, with type IIIa – 3, with type IIIb – 2, with type IV - 21.

Results

- In 55 patients (85.9%) obstructive jaundice is resolved.
- During hospitalization, death occurred in 9 patients (14.06%).
- Surgical complications were detected in 11.5%: insufficiency of the anastomosis (1 patient), drainage obstruction (1 patient), bleeding of the drainages (1 patient), pancreatitis (2 patients), cholangitis (1 patient), wound infection (1 patient).

- Levels of Bilirubins (**p=0,008**) and presence of co-morbidities (**p=0,003**) are significant predictors for development of postoperative complications.
- Levels of Bilirubins of the patients, who underwent radical surgery, are lower that these of the patients, treated with PTC/ERCP stents. (**p=0,025**)
- Age of the patients, underwent radical operation is significantly lower, than age of the patients with PTC/ERCP stents. (**p=0,03**)
- Levels of Bilirubins of patients with Klatskin tumors are significantly higher than these of patients with (p=0,026)
- At the time of diagnosis Klatskin tumors are advanced.

Strict preoperative assessment is associated with reduced risk for postoperative complications. The lowest % of complications is observed in the group of radically treated patients.

We prefer endoscopic/PTC stents in cases of advanced tumors, in elderly with severe co-morbidities and expected survival < 3 months.

% of radical operations is the lowest in the group with Klatskin tumors. (p=0,05)

% of complications is the highest in group with Klatskin tumors (p=0,007).

Discussion

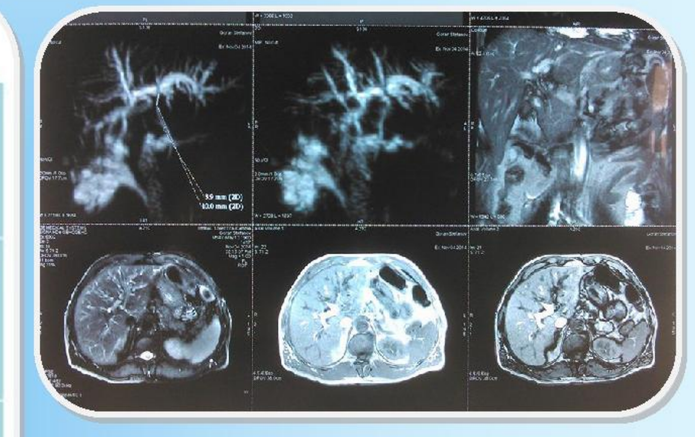
1. In decision for radical surgery, Kennedy TJ et al, 2009, recommended liver resection without prior biliary decompression in small residual liver volume. It is recommended to avoid preoperative stenting of the bile duct due to decreased incidence of stent-associated infections and difficulty during surgical exploration (Sohn TA, 2000).
2. C. Sun et al are proponents of an initial attempt for percutaneous or endoscopic stenting, follow by radical or palliative surgery (Sun C, 2014).
3. Surgical and nonsurgical methods of biliary drainage (stent or percutaneous transhepatic drain (endoscopic or percutaneous)), are comparable in terms of short-term results and success for solving the biliary obstruction is 80-100% (Gouma DJ, 2005).
4. There are four prospective randomized trials, comparing surgical and endoscopic biliary drainage. There is no difference in mortality rate with slight difference in survival in favor of surgery (Nieveen van Dijkum EJ, 2003; Shepherd HA, 1988; Smith AC, 1994, Andersen et al, 1989).

Conclusions

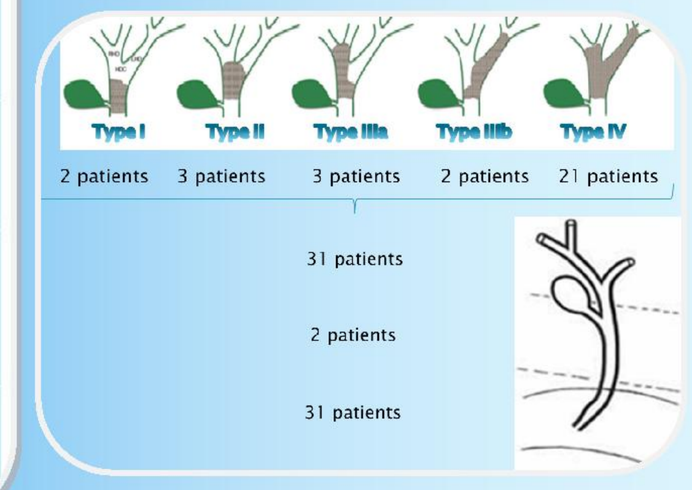
1. Management of obstructive jaundice in patient with malignant stenosis of extrahepatic bile ducts is an essential part of the complex treatment.
2. In advanced disease and contraindications for radical surgery, palliative biliary drainage is justified in order to improve the quality of life and reduce the pruritus.
3. More research is needed to assess the place and role of different types of biliary drainage.

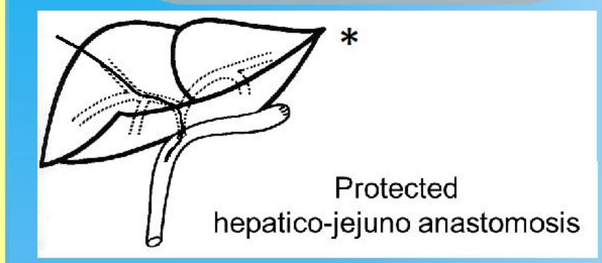
Types of drainage observed in radical operated patients

Resection of extrahepatic bile ducts. Drain-protected Roux-en-Y bihepatico-jejunostomy	5
Left hemihepatectomy. Resection of extrahepatic bile ducts. Roux-en-Y hepaticojejunostomy	1
Resection of extrahepatic bile ducts.Right hepatic duct-common hepatic duct anastomosis with transhepatic protective drainage *	1
Left hemihepatectomy. Transhepatic protective drainage	1
Pylorus-preserving pancreaticoduodenectomy (Traverso-Longmire procedure)	1
Pancreatoduodenectomy (Whipple procedure)	9

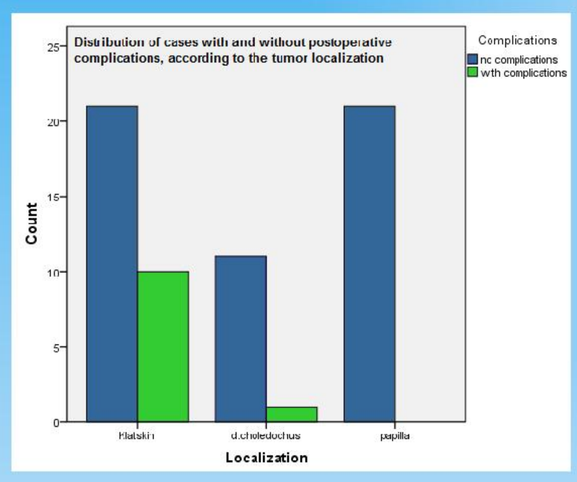


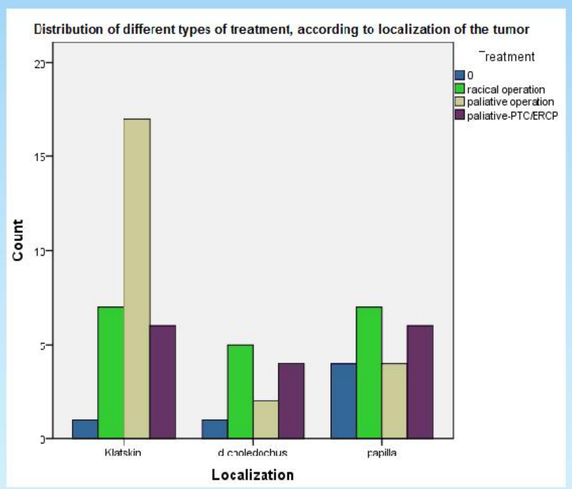
Imaging study in patient with Klatskin tumor (own material)





* Protected hepatico-jejuno anastomosis





Types of drainage observed in palliatively operated patients

Transtumoral transpapillary „lost" /perdue/ biliary drainage	8
Transhepatic biliary drainage	15
External biliary drainage	2

Types of drainage in nonoperated patients

Percutaneus transhepatic cholangiography with external biliary drainage	5
Percutaneus transhepatic cholangiography with external/internal drainage	10
Endoscopic retrograde cholangiopancreatography	1

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