INPLASY PROTOCOL

To cite: Gao et al. Effect of preoperative biliary drainage on the prognosis of obstructive jaundice: an umbrella review. Inplasy protocol 202270102. doi: 10.37766/inplasy2022.7.0102

Received: 23 July 2022

Published: 23 July 2022

Corresponding author:
Cao Rongjian

crj872559411@126.com

Author Affiliation:
Affiliated Hospital of Qingdao University.

Support: **None.**

Review Stage at time of this submission: **Data analysis.**

Conflicts of interest:
None declared.

Effect of preoperative biliary drainage on the prognosis of obstructive jaundice: an umbrella review

Gao, LY[1]; Jing, X[2].

Review question / Objective: **Preoperative biliary drainage (PBD) is mainly accomplished by inserting biliary stents into the common bile duct and percutaneous transhepatic biliary drainage endoscopic nasobiliary drainage (ENBD) . There is constant controversy about whether preoperative biliary drainage (PBD) is effective. Some studies have shown that preoperative biliary drainage (PBD) in the treatment of obstructive jaundice is beneficial to postoperative mortality and incidence rate, but recent studies have found that postoperative cholangitis, biliary bleeding, duodenal perforation, stent detachment, tumor implantation and other related diseases may also delay the timing of surgery . This study searched the relevant systematic reviews and meta-analysis, and elaborated the influence of preoperative biliary drainage on the prognosis of obstructive jaundice through amstar scale and grade system evaluation, so as to provide reference for clinical practice.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 July 2022 and was last updated on 23 July 2022 (registration number INPLASY202270102).

INTRODUCTION

Review question / Objective: **Preoperative biliary drainage (PBD) is mainly accomplished by inserting biliary stents into the common bile duct and percutaneous transhepatic biliary drainage endoscopic nasobiliary drainage (ENBD) . There is constant controversy about whether preoperative biliary drainage (PBD) is effective. Some studies have shown that preoperative biliary drainage (PBD) in the treatment of obstructive jaundice is beneficial to postoperative mortality and incidence rate, but recent studies have found that postoperative cholangitis, biliary bleeding, duodenal perforation, stent detachment, tumor implantation and other**

related diseases may also delay the timing of surgery . This study searched the relevant systematic reviews and meta-analysis, and elaborated the influence of preoperative biliary drainage on the prognosis of obstructive jaundice through amstar scale and grade system evaluation, so as to provide reference for clinical practice.

Condition being studied: The main cause of obstructive jaundice is the obstruction of bile flow caused by benign choledocholithiasis or benign biliary stricture (secondary to choledocholithiasis or complications of cholecystectomy) and malignant tumors such as peritoneum cancer, which leads to the increase of serum bilirubin level, resulting in the pathophysiological changes of multiple systems . It can lead to digestive and absorption disorders of fat and fat soluble vitamins, changes in liver function, coagulation and fibrinolysis, continuous progressive cholestasis, increase the risk of cholangitis, endotoxemia and liver failure, and may affect the surgical results , and increased bilirubin can induce the occurrence of systemic inflammatory response syndrome, leading to multiple organ dysfunction syndrome, hemodynamic instability and acute renal failure Cardiovascular depression, decreased immunity, coagulation disorders, nutritional disorders, wound healing defects and other clinical manifestations . The prognosis of patients with hyperbilirubinemia is worse than those with normal liver function, which is a potential independent risk factor affecting the postoperative outcome of patients . Preoperative biliary drainage (PBD) is mainly accomplished by inserting biliary stents into the common bile duct and percutaneous transhepatic biliary drainage endoscopic nasobiliary drainage (ENBD) . There is constant controversy about whether preoperative biliary drainage (PBD) is effective. Some studies have shown that preoperative biliary drainage (PBD) in the treatment of obstructive jaundice is beneficial to postoperative mortality and incidence rate, but recent studies have found that postoperative cholangitis, biliary bleeding, duodenal perforation, stent detachment, tumor implantation and other related diseases may also delay the timing of surgery.

METHODS

Participant or population: Patients with obstructive jaundice undergoing preoperative biliary drainage.

Intervention: Preoperative biliary drainage (PBD).

Comparator: Patients with obstructive jaundice without preoperative biliary drainage.

Study designs to be included: All data were extracted independently by two researchers. When a meta-analysis contains multiple outcome indicators, each outcome indicator is extracted and analyzed separately. This study counted the number of all postoperative outcome indicators involved in the included literature and the changes of outcome indicators related to preoperative biliary drainage (PBD) and direct surgery. When multiple meta-analyses study the same related outcome, select the meta-analysis with the highest level of evidence, the latest and the largest number of studies. Different opinions were resolved through discussion.

Eligibility criteria: (1) Meta analysis or systematic evaluation and meta-analysis published in Chinese and English; (2) To study the effect of preoperative biliary drainage on the prognosis of obstructive jaundice; (3) The total effect value and its 95% confidence intervals (CI) were reported.1.3 literature exclusion criteria: (1) repeatedly published literature; (2) Unable to obtain the full-text literature; (3) Animal research and other basic research; (4) Non Chinese and English studies.

Information sources: PubMed、Embase、Cochrane、Web of science.

Main outcome(s): Most patients with obstructive jaundice can not benefit from preoperative biliary drainage. Therefore, preoperative biliary drainage cannot be taken as routine preoperative preparation. How to determine the indications for preoperative biliary drainage and maximize the benefits of patients? Because the evidence of most results is low, more prospective cohort studies are needed in the future.

Quality assessment / Risk of bias analysis: AMSTARS, GRADE.

Strategy of data synthesis: Extract the effect value and its 95% CI of the relevant outcome indicators of each existing meta-analysis. The degree of heterogeneity is evaluated according to the p value or I2 value of heterogeneity analysis. When the heterogeneity $p<0.1$ or $I2 \geq 50.0\%$, it can be considered that there is significant heterogeneity. The publication bias of meta-analysis was evaluated by egger's test, begg's test or funnel chart. When $p<0.1$, there was publication bias.

Subgroup analysis: Subgroup Analysis was performd to explore the suorce and size of heterogeneitu among studies when necessary.

Sensitivity analysis: Sensitivity analysis Subgroup Analysis was performd to explore the suorce and size of heterogeneitu among studies when necessary.

Country(ies) involved: China.

Keywords: Preoperative biliary drainage; Obstructive jaundice; Umbrella evaluation; Meta-analysis.

Contributions of each author:
Author 1 - Gao Lingyu.
Author 2 - Jing Xue.