

Clinical Audit on the Success and Complication Rates of PTBD Procedures dealing with External Drainage of Dilated Ducts



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Introduction & Objectives

Percutaneous transhepatic biliary drainage (PTBD) is a therapeutic procedure that includes the sterile cannulation of a peripheral biliary radicle after percutaneous puncture followed by imaging-guided wire and catheter manipulation. It is an effective method for the management of biliary abnormalities such as gallstone obstruction, benign and malignant strictures under imaging guidance when ERCP is not feasible or contraindicated. However, it has been associated with complications including sepsis, haemorrhage, abscess, peritonitis, cholecystitis, and pancreatitis, with an overall 30-day in hospital mortality rate of reported up to 20% in literatures.

We would like to review all PTBD (external drainage of dilated ducts) performed over a 9 month period to assess technical success and complication rates and the compliance rate of the Society of Interventional Radiology (SIR) guideline on pre-operative INR / platelet levels.

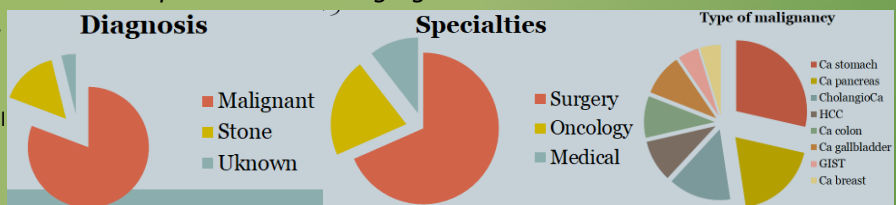
Methodology

Audit period was set from 1st Jan 2017 to 30th Sep 2017. Clinical notes, laboratory results, prescribing history and radiological images of each patient were reviewed in CMS and ePR. Only procedures dealing with external drainage of dilated intrahepatic ducts were included.

“Quality improvement guidelines for percutaneous transhepatic cholangiography, biliary drainage, and percutaneous cholecystostomy” and the “Consensus guidelines for periprocedural management of coagulation status and hemostasis risk in percutaneous image-guided interventions” were used as the references for the standard.

Results

Total number of patients: 26
 Total number of audited PTBD external drainage of dilated ducts: 43
 Male to Female ratio was 17:9
 Mean age: 65.2 years old
 Range: 48-89 years old



	Audit Results	Reference Targets
PTBD (external drainage) success rate (dilated ducts)	97.7%	95%
PTBD related sepsis (<72 hours)	7%	10%
PTBD related hemorrhage (<72 hours)	0%	10%
PTBD related death (<30 days)	0%	10%
Pre-procedure INR ≤ 1.5	100%	100%
Pre-procedure PLT ≥ 50 x10 ⁹	100%	100%

Conclusion & Recommendations

This audit reviewed the success and complication rates of PTBD dealing with external drainage of dilated ducts done in our Department were satisfactory, meeting standards prescribed in the reference guideline. The compliance rates of pre-operative INR / PLT levels recommended by the reference guideline were satisfactory reaching 100%.

A few points are recommended for further improvement in our performance:

- 1/ Regarding prevention of sepsis, radiologists should check whether prophylactic antibiotics is given before commencing the procedure. Avoid over-distention by injecting too much contrast agent into the already dilated system. Liaison with microbiologists and surgeons to establish a standardised PTBD prophylactic antibiotics protocol is recommended.
- 2/ Regarding pre-operative INR and platelet levels, straight compliance to the reference guideline is recommended unless in emergent or highly urgent procedures in which the risk of procedural delay may outweigh the potential hemorrhagic risk. Always liaise with the referring clinical team when encountering abnormal clotting profile in emergent or urgent procedures.