

## Percutaneous Transhepatic Cholangiogram

### PTC & PTD

#### **Role:**

- PTC allows visualization of the bile ducts , if they are partially or completely blocked

#### **Indications:**

- Evaluation of Biliary obstruction.
- Evaluation of Jaundice , which may be due to :
  - Calculus Obstructive: CBD Stones.
  - Malignant Obstructive: Cancer Pancreas, Duodenum, and Liver.
- Evaluation of Bile Leakage

#### **Contraindications:**

- Bleeding Tendency.
- Biliary tract sepsis
- Hydatid disease

#### **Equipments:**

- General fluoroscopic with spot film device .
- General sterile procedures pack
- Skin prep
- Local anaesthetic equipment
- Chiba needle - flexible 22 gauge 18 cm long.
- Sterile towels

#### **➔ Contrast agents**

Low osmolar (200 mg/ml) 20 - 60 ml.

**Preparation :**

- **Haemoglobin, prothrombin time and platelets** are needed to be corrected before the procedure takes place.
- **Prophylactic antibiotic** cover typically *ampicillin 500 mg q.d.s.* 24 hours before procedure & for 3 days after
- **Fasting** for 4 hours before procedure
- **Premedication:** Omnopon 10mg and hyoscine 0.2mg i.m.

**Technique :**

- **Position:** The patient lies supine.
- **Sterilization:** of the skin area.
- **Anesthesia:** The area of needle insertion, deep tissue and liver capsule are infiltrated with local anaesthetic - and time given for it to act.
- **Cheba:** Under fluoroscopic control *the Cheba* needle is introduced into the liver in suspended respiration, when correctly positioned → the patient is permitted to breath gently.
- **The stillette is withdrawn** from the needle.
- **Bile sample** is withdrawn for analysis and then contrast media is injected.
- **Contrast injection:** Syringe containing contrast media attached,
  - Contrast media is injected under fluoroscopic control as the needle is slowly withdrawn → until a duct is demonstrated,
  - This may require several manipulations of the needle *up to 10 times*.

**Films:**

- **Control film** right upper quadrant before procedure
- **Supine** → PA, 45degree RPO, Rt Lateral, Trendelenberg
- **Erect** → PA, 45degree RPO, Rt Lateral
- **Other images** as required.

**Aftercare**

- **Pulse, Respiration and Blood Pressure** ← half hourly for 6 hours
- Check *puncture site* for bleeding at the same time.

**P T D****Biliary Drainage Catheter Placement**

\* Following the initial injection of contrast (x-ray dye) into the bile duct **during a PTC**, the interventional radiologist next guides *a small guide wire* through the needle, into the ducts and across the site of blockage while watching the wire and ducts on x-ray.

- Over this wire, **a small tube (catheter)** is then inserted to allow the bile to be drained from the liver, relieving the jaundice caused by blockage of the duct.

**Complications:**

- **Mortality:** *less than 1%*
- **Allergic** reactions are rare
- Haemorrhage,
- shock,
- Subphrenic abscess,
- Cholangitis,
- Bacteraemia,
- Septicaemia.



Large  
gallstone trapped  
in the duct

- *A guide to radiological procedures Chapman & Nakielny*