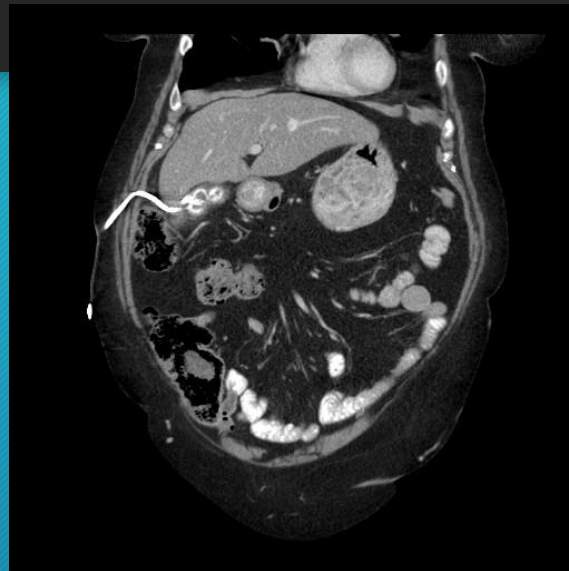


Percutaneous cholecystostomy and gallbladder stone management

CIRSE Glasgow Sept 2014

Jane Phillips-Hughes

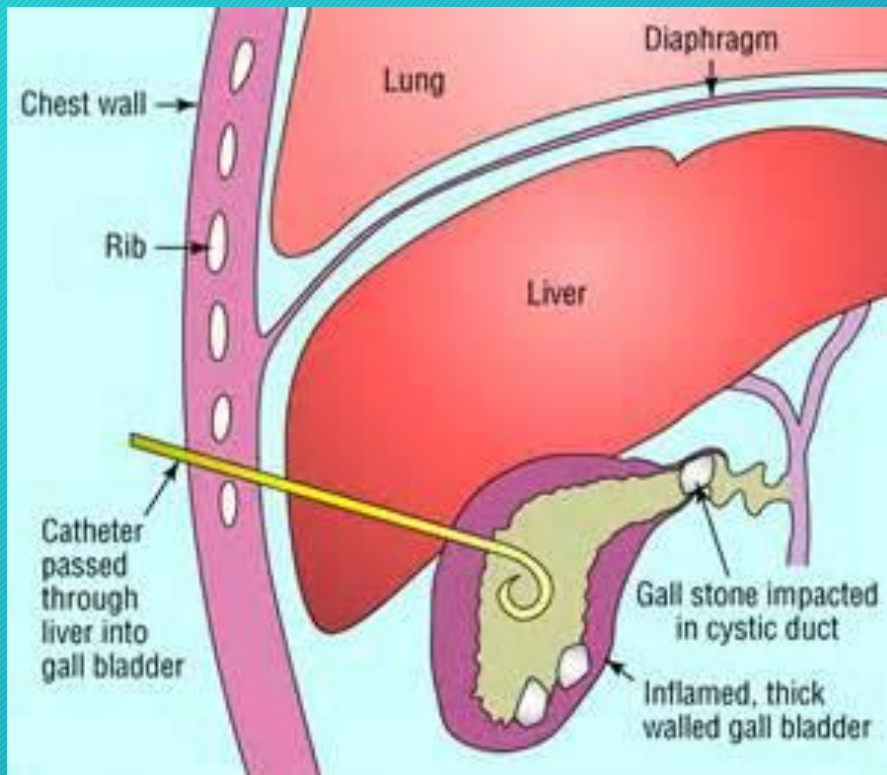


Acute cholecystitis

- Common
- Laparoscopic cholecystectomy treatment of choice
- Cholecystostomy and antibiotic therapy regarded as acceptable alternative approach in certain situations

Indications for percutaneous cholecystostomy (PC)

- in patients with calculous or acalculous cholecystitis, not responding to standard treatment..
- requiring additional pre-operative clinical support prior to surgery
- definitive treatment in patients considered unsuitable for surgery



Percutaneous cholecystostomy

- Multiple co-morbidity, high operative risk
- Elderly
- Haemodialysis
- ICU
- Pregnancy

- Acalculous cholecystitis

Contraindications:

- Interposed bowel
- Severe/ untreated bleeding diasthesis

Contraindications: relative

- Gallbladder cancer
- Perforated gallbladder
- Gallbladder packed with stones

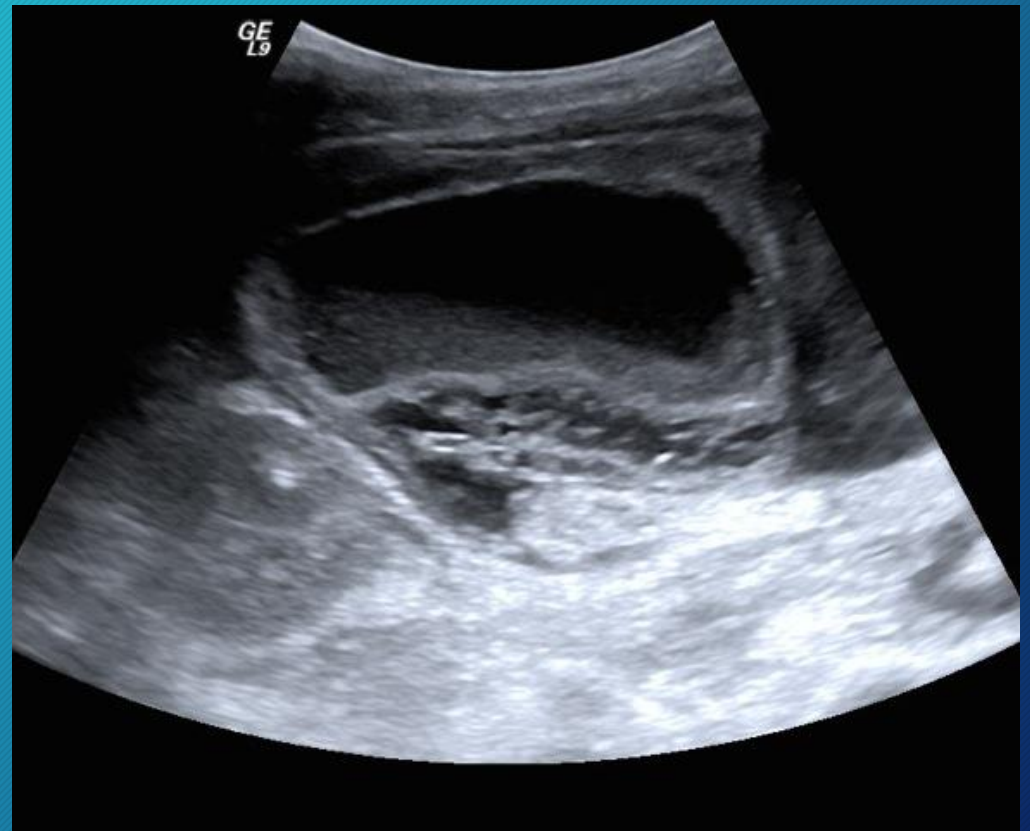


Technique: Pre-procedure

- Consent
- Procedural (WHO) checklist
- Clotting, FBC, Inflammatory markers
- LFT's
- Antibiotics
- Review anatomy from available imaging

Image guidance:

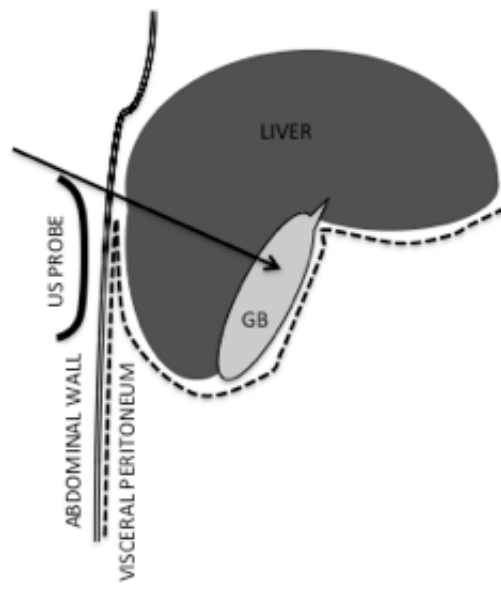
- US
- Fluoro
- (CT)



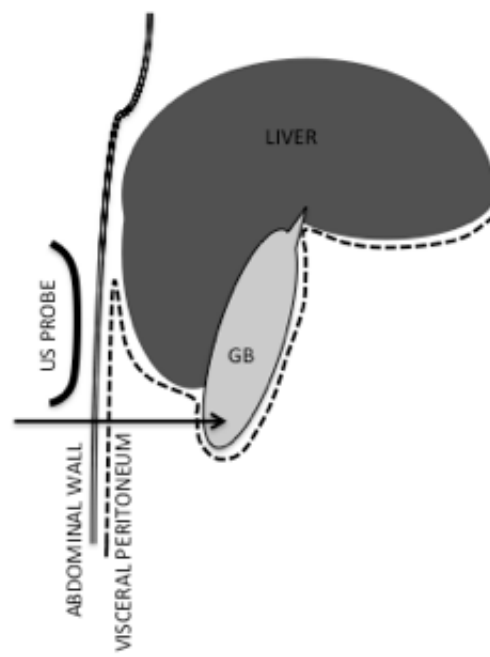
Anatomical considerations

- Transhepatic v Transperitoneal
- Subcostal v Intercostal

TRANSHEPATIC

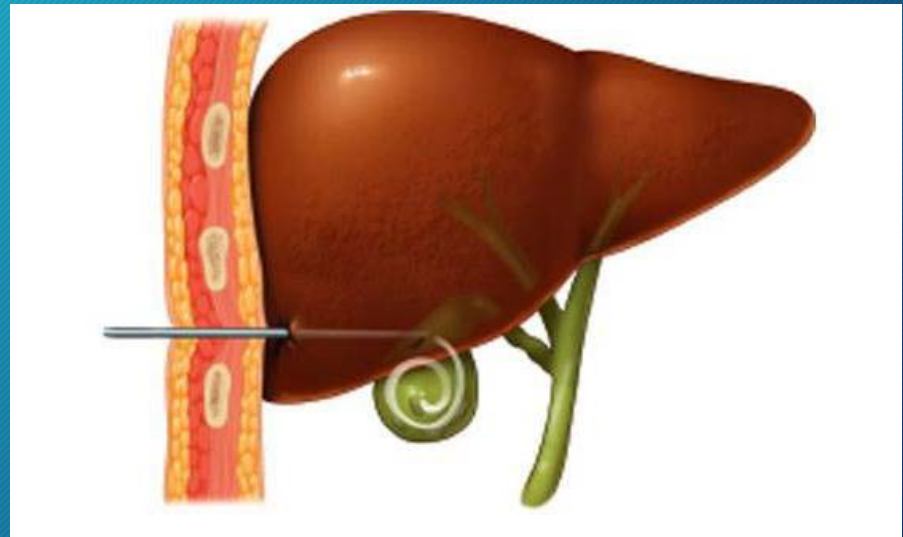


TRANSPERITONEAL



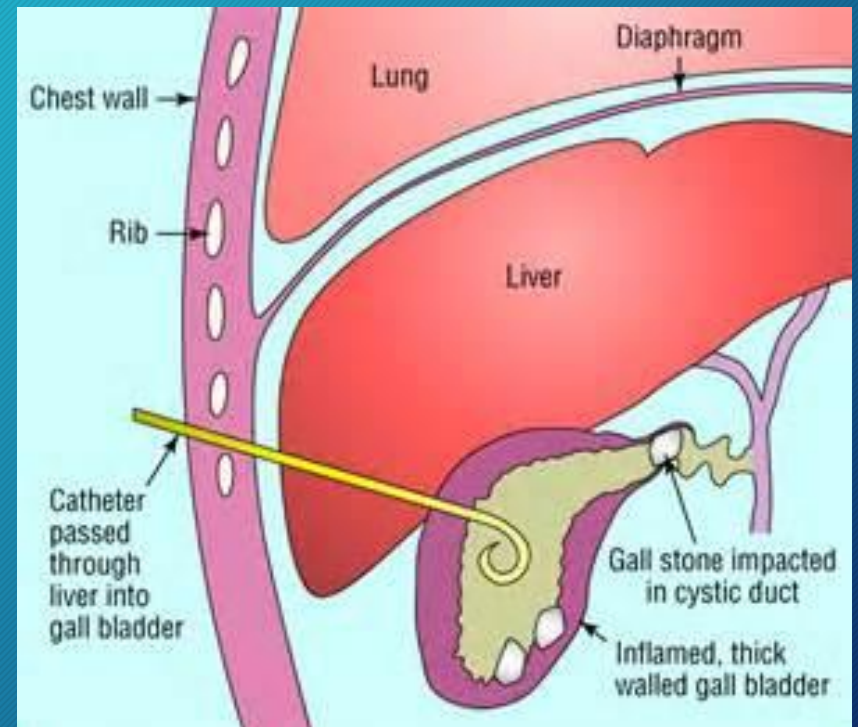
Transhepatic route

- Reduced risk of bile leak
- Greater catheter stability
- Quicker tract maturation
- Safest route with massive ascites / bowel interposition



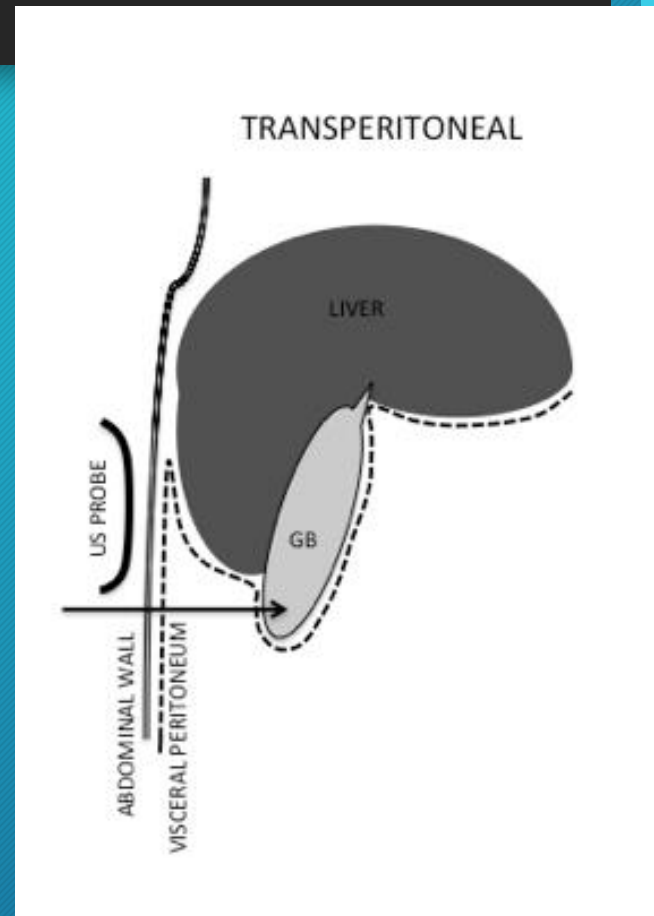
Transhepatic route

- Higher rates:
- Bleeding
- Haemobiliary fistula
- Pneumothorax



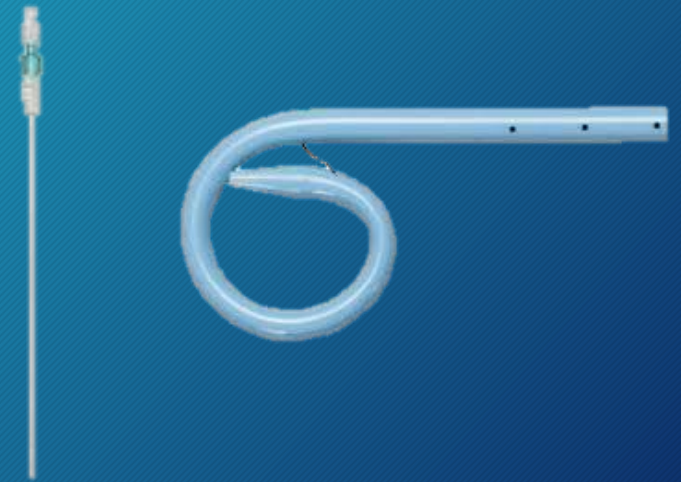
Transperitoneal route:

- Liver disease
- Coagulopathy

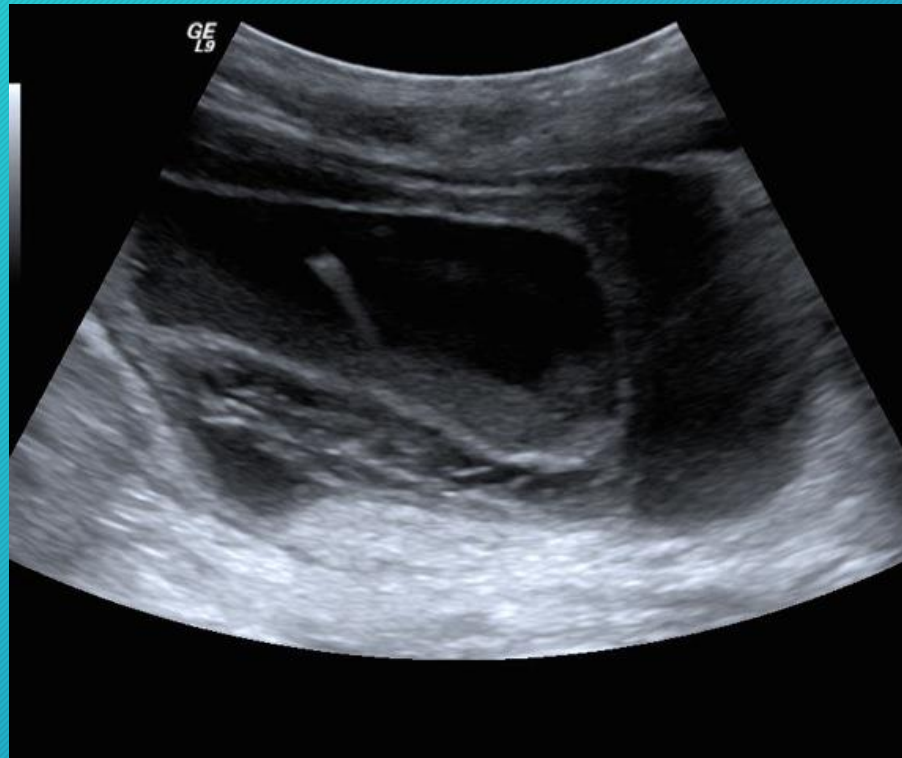


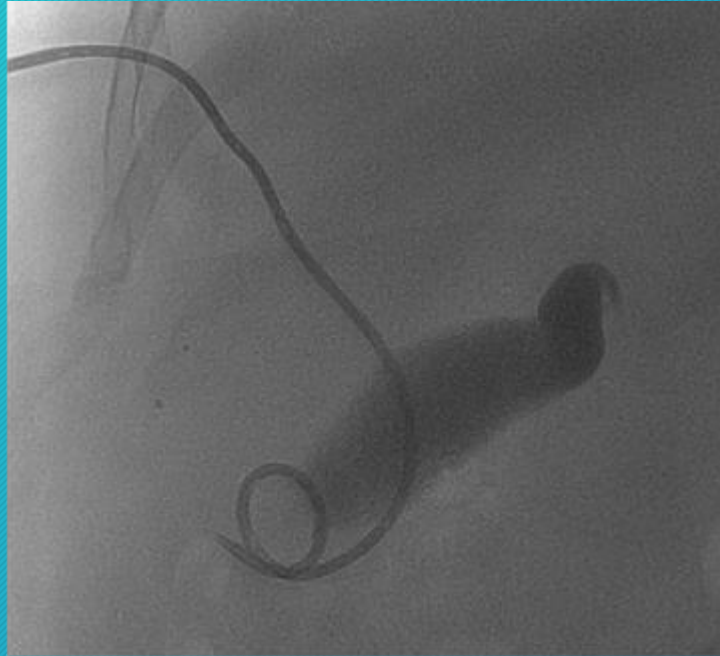
Technique

- Conscious sedation / Anaesthetic support
- Aseptic technique
- Transhepatic route where possible
- Seldinger technique (v Trochar)
- US guided puncture
- Fluoro to confirm position
- (Locking) pigtail catheter



US guided puncture





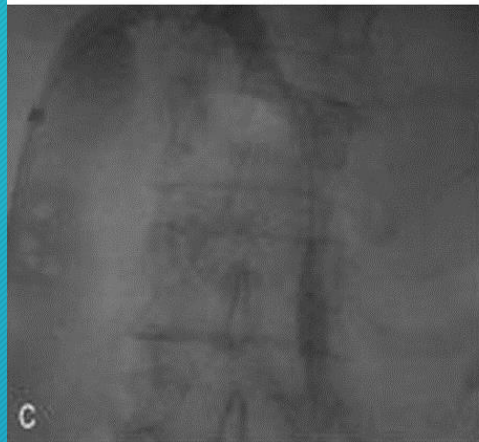
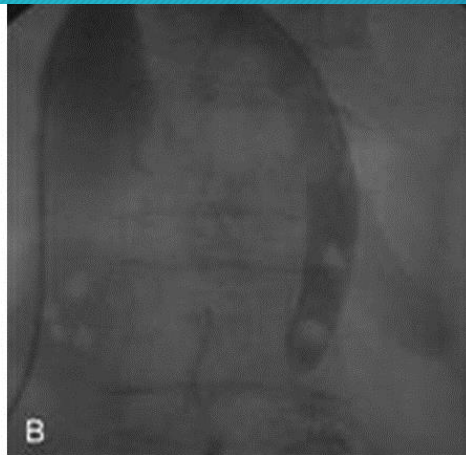
- Aspirate to dryness
- Sample of bile for C&S
- Bed rest, analgesia, observations
- Flush daily (at least) 10 mls N Saline
- Continue antibiotics 48 hours +
- Cholecystogram up to 7 days later

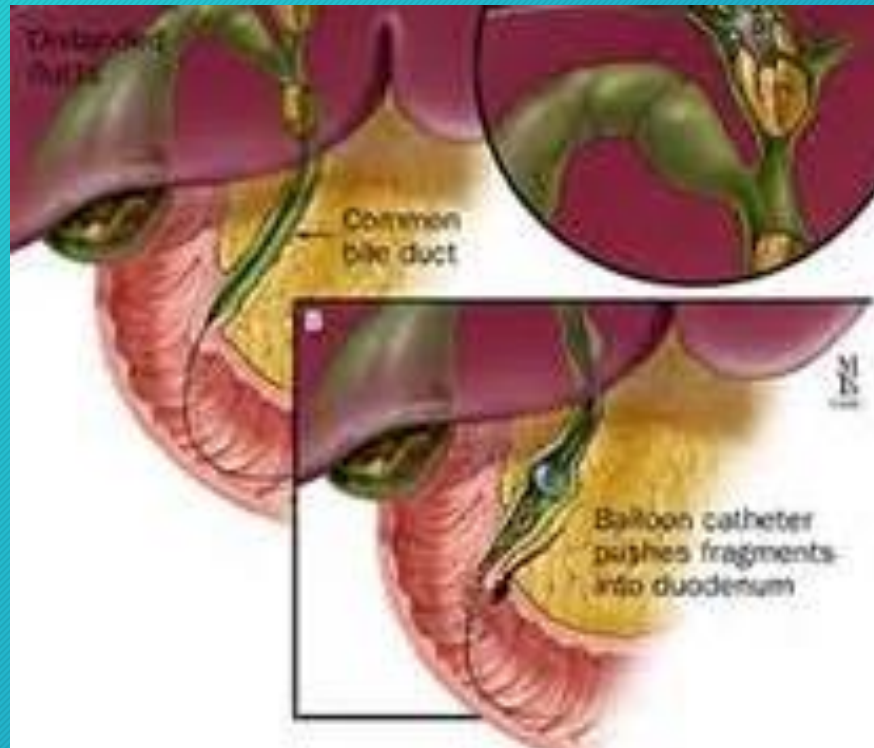
Next steps

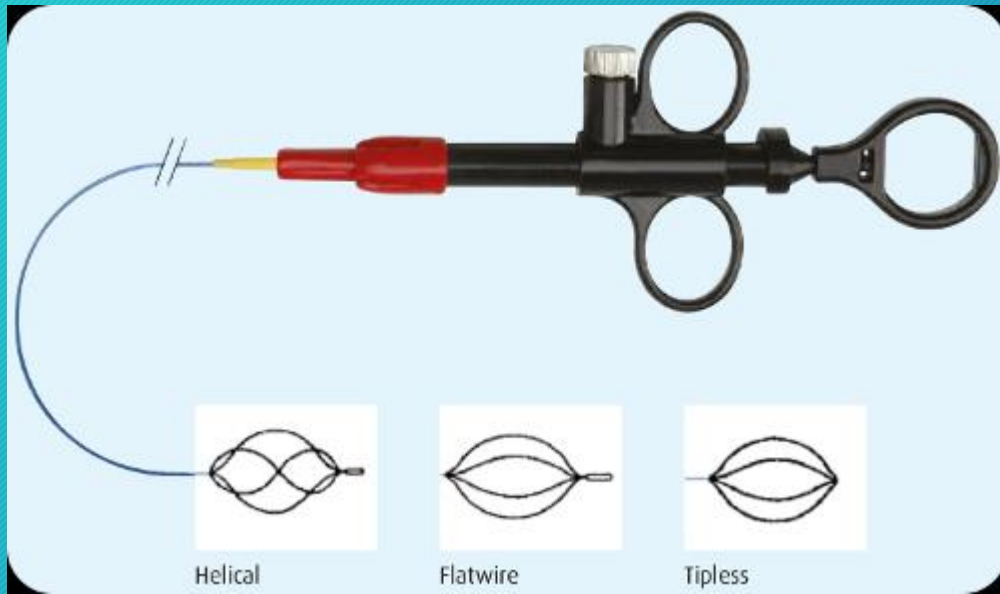
- Depends on intention eg bridge to surgery or definitive treatment
- Generally removed within 1 month after trial of clamping
- Catheter change every 3 months if definitive treatment

Recurrence rates

- Risk of recurrent cholecystitis up to 46% at 3 years
- If cholecystectomy not contemplated, consider percutaneous gallstone extraction







Outcomes of PC

- Technical success - image confirmation of catheter placement within gallbladder
- > 90%

- Failures = Small gallbladder/ too many stones
thick wall / porcelain gallbladder

SIR: Clinical success

- Reduced pain
- Reduced fever
- Reduced WCC
- Reduced CRP

- 85.6% (Windbladh 2009)
- Median time 3 days (van Sonnenberg 1992)

Complications

- Catheter migration 8.6%
- Haemorrhage
- Sepsis
- Vasovagal reaction
- Bile leak
- Bowel perforation
- Pneumothorax

SIR QI Guidelines: Major comps

| Reported rate (%) | Suggested threshold (%) |
|----------------------------|-------------------------|
| • Sepsis 2.5 | • 5 |
| • Haemorrhage 2.2 | • 5% |
| • Abscess /peritonitis 2.9 | • 6 |
| • GI tract perf 1.6 | • 2 |
| • Death 2.5 | • 3 |
| • Overall | • 5 |

SIR

- Complication rate and mortality varies with pre-procedure status , patient selection, referral patterns
- 30 day post procedure mortality has wide range (8-36%)
- Vast majority of mortalities are related to patient co-morbidities and not the procedure

Advantages of surgery

- Definitive treatment
- Removal of diseased gallbladder
- Complication rates also dependent on patient selection

CHOCOLATE trial

- Randomized controlled prospective multicentre trial
- Aiming for 284 high risk patients
- Randomised to PC or lap-cholecystectomy
- Primary outcomes: major comps within 3 months, need to re-intervene and mortality at 12 months
- Secondary outcomes: all other comps, hospital stay, costs

CHOCOLATE trial

- Recruitment commenced 2012
- To date just over 100 patients
- 284 required

Current status of PC v Lap Chole

- Unknown
- Evidence lacking
- CHOCOLATE trial awaited
- Anaesthetic techniques evolving and risks reducing
- But..

Percutaneous cholecystostomy

- Good technical / clinical success
- Relatively low mortality
- Generally doesn't require anaesthesia
- Can be performed in ICU setting
- Awareness amongst clinicians increasing
- Availability of IR improving

- Reasonable evidence: a useful approach for frail high risk patients who are not responding to standard supportive therapy
- Therefore likely to be around for some time yet.

