Cholecystectomy Vs Cholecystostomy tube in the management of acute cholecystitis

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Cholecystitis

- Inflammation of the gall bladder
  - Calculus
  - Acalculus

Incidence

- By the age of 60
  - Women - 22.4%
  - Men - 11.5%

Historical data

- Gall stones found in ancient Egyptian mummies
- Physician who suggested operative treatment for stone disease
- 1859 - Surgeon could fix the fundus to the anterior abd wall through a small incision
- 1868 – Bobbs performed cholecystotomy with great success.
- 1882 – Langenbuch - removal of the gall bladder

Diagnostic criteria for acute cholecystitis – TG13

A. Local signs of inflammation

Murphy's sign, RUQ mass/pain/tenderness

B. Systemic signs of inflammation

fever, elevated CRP, Abnormal WBC

C. Imaging findings

- imaging findings characteristic of acute choecystitis

Suspected diagnosis

1. One item in **A** and one item in **B** are positive

Definite Diagnosis

One item in A + one item in B + C

Severity assessment criteria for acute cholecystitis

- **Severe (Grade III)** – Acute choecystitis is accompanied by any one organ dysfunction – CVS, CNS, RS, Renal, Hepatic, Haematological.

- **Moderate (Grade II)** - ↑WBC **or** palpable tender mass **or** >72hrs **or** marked local inflammation

- **Mild (Grade I)** – does not meet the criteria of Grade II and III.

  - No organ dysfunction and only mild inflammatory changes

TG07 – Severity assessment of acute cholecystitis

- Management of acute cholangitis and acute cholecystitis
- Sensitivity to diagnostic criteria for acute cholecystitis – 92.1%
- Specificity – 93.3%
- Revised in 2013 as TG13 with improved accuracy from 92.7 to 94%

Cholecystostomy tube

Cholecystogram

Cholecystostomy

- Critically ill patients
- Poor or non operative candidates
- Elderly patients
- ASA III or IV
- Anticoagulants – Dabigatran and Clopidogrel
- Pregnancy (Case report)

Older patients

- Cholecystectomy is the treatment of choice
- Conversion to open is higher
- Increase post operative mortality and morbidity rates
- Longer hospital stays
- Higher complications rates
- May be due to associated diseases and delay in diagnosis

Cholecystostomy

- Aim is to decrease the morbidity and mortality (0 – 38%) rates
- Recurrence of AC rate is up to 40% after removal
- Overall 38% undergo elective cholecystectomy

From: Revisiting Percutaneous Cholecystostomy for Acute Cholecystitis Based on a 10-Year Experience

Arch Surg. 2012;147(5):416-422. doi:10.1001/archsurg.2012.135

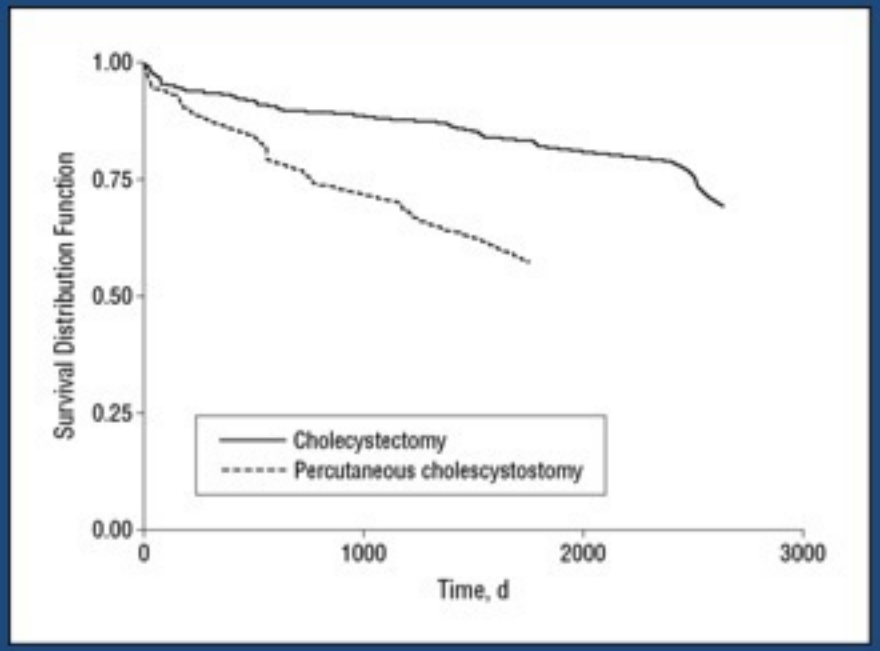

Figure Legend:

Figure 3. Age- and Charlson comorbidity index score–adjusted survival distribution function in the percutaneous cholecystostomy and cholecystectomy groups.

ORIGINAL ARTICLE HPB 2013, 15, 511–516

Clinical outcomes of a percutaneous cholecystostomy for acute cholecystitis: a multicentre analysis

Pandanaboyana Sanjay, Devender Mittapalli, Aseel Marioud, Richard D White, **Rishi Ram** & Afshin Alijani

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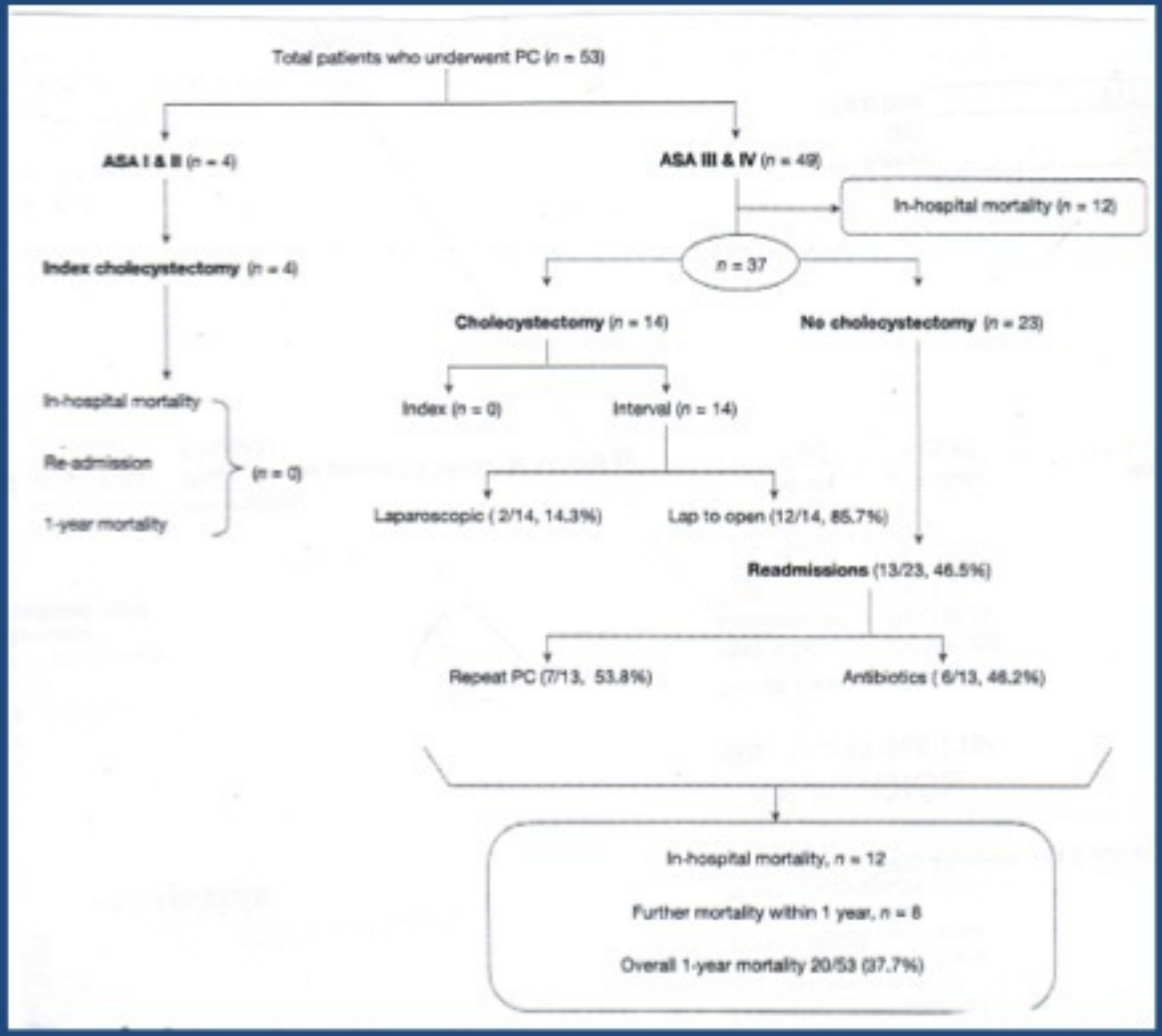
Overall outcomes after a percutaneous cholecystostomy (PC)



Unadjusted differences in outcomes comparing outcomes of cholecystostomy and cholectstecomy

	ALL	Cholecystectomy	Cholecystostomy	*P* value
Calculus				
Death	3018 (1.2%)	2,593 (1.1%)	425 (11.5%)	<0.001
All Cx	21,038 (8.5%)	20886 (8.5%)	152 (4.1%)	<0.001
GB/GI Cx	9214 (3.7%)	9167 (3.8%)	47 (1.3%)	<0.001
Length of stay	5.2	5.1	12.7	<0.001
Total charges $	38,179	37,481	84,976	<0.001
Acalculus				
Death	2,036 (3.5%)	1,423 (2.6%)	613 (14.2%)	<0.001
All Cx	5,933 (10.1%)	5,636 (10.4%)	297 (6.9%)	<0.001
GB/GI Cx	2,603 (4.5%)	2,523 (4.7%)	80 (1.9%)	<0.001
Length of stay	7.3	6.7	14.9	<0.001
Total Charges	53,974	49,787	**106,846**	<0.001

Complications of cholecystostomy
0 – 12.5%

- Biliary tree injury – bile leak
- Bleeding
- Abdominal abscess
- Wound infection
- Biliary peritonitis
- Pneumothorax/pneumobilia
- Enterocutaneous fistula

Cholecystectomy

- Preferred treatment for acute cholecystitis
  - Calculus/acalculus
  - Open/ laparoscopic

  Acute cholecystecytomy Outcome is better than delayed

  Shortens hospital stay

  Reduces the number of readmissions

  Decreases the conversion rates

Optimum surgical treatment according to grade of severity

- Mild (grade I) – early laparoscopic cholecystectomy
- Moderate (grade II) – Early cholecystectomy. If there is severe inflammation early GB drainage is indicated.
- Severe (Grade III) – urgent management of organ dysfunction and early drainage and/ cholecystectomy

Conclusion

- Acute cholecystectomy – treatment of choice

- Cholecystostomy
  - useful in selected high risk and very old patients.
  - In very ill patients with absolute surgical contraindications

THANK YOU

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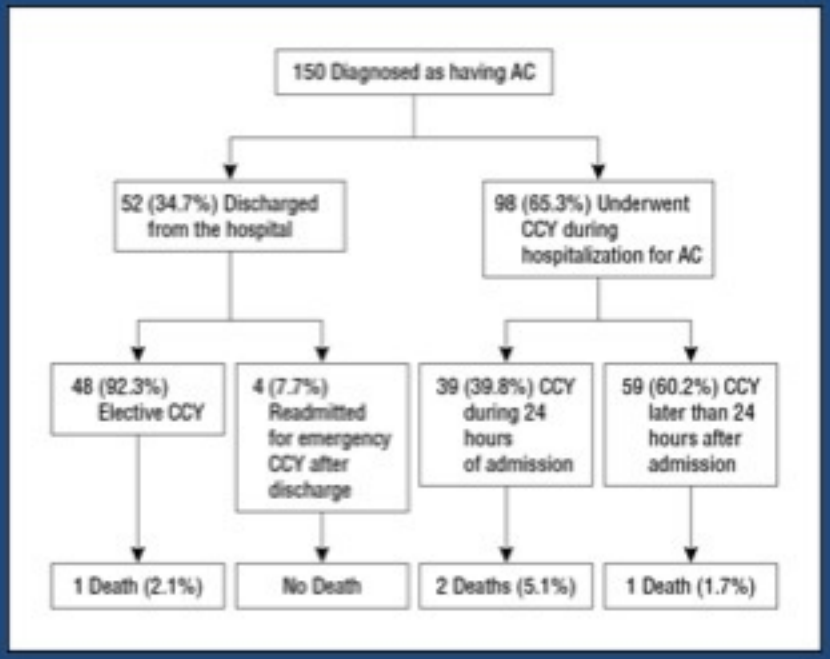

Figure Legend:

Figure 2. Outcomes in patients who underwent cholecystectomy (CCY) only. All deaths are reported within 30 days of surgery. AC indicates acute cholecystitis.

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Figure Legend:

Figure 1. Outcomes in patients who underwent percutaneous cholecystostomy (PC). AC indicates acute cholecystitis; CCY, cholecystectomy.