To operate or not to operate? On acute cholecystitis in elderly and critically ill patients

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Goal:

To provide evidence supporting the non-operative management of acute cholecystitis (AC) in elderly and critically ill patients as a safe and effective bridge treatment strategy.
Introduction

• Definitions of terms
  • Elderly > 65 years
  • Severe acute cholecystitis - based on Tokyo Guidelines (TG07) – acute cholecystitis with systemic or organ dysfunction/s
  • Critically ill pts
    • ASA class IV or above
    • APACHE II score > 12; SAPS >15 (Simplified Acute Physiology Score); SOFA (Sequential Organ Failure Assessment)
• Tokyo Guidelines for acute cholecystitis (TG 07)
  • **Mild** - RUQ pain w/murphy’s signs and USG findings (40-70%)
  • **Moderate** - acute cholecystitis w/ WBC >18K; >72hrs of symptoms; palpable tender mass (25%-60%)
  • **Severe** - acute cholecystitis with organ dysfunction/s
Severe acute cholecystitis

- Incidence - 1.2-6% are severe acute cholecystitis
- Severe acute cholecystitis – acute cholecystitis along with one of the below:
  - Cardiac dysfunction (pressor requirement)
  - Neurologic dysfunction (altered mental status)
  - Hepatic dysfunction (INR >1.5)
  - Renal dysfunction (Cr > 2.0mg/dl)
  - Respiratory dysfunction (PaO2/FiO2 ratio <300)
  - Hematologic dysfunction (Plt count <100K)
Cholecystitis in critically ill pts

- Calculus cholecystitis (ACC) vs Acalculus cholecystitis (AAC)
- AAC seen in 10-20%
- High mortality rates of up to 50%
Non-operative management of cholecystitis

- Antibiotics covering gram – bacilli and anaerobic organisms
- Gall bladder drainage procedures
  - Percutaneous vs Endoscopic transpapillary approach
<table>
<thead>
<tr>
<th>Study group</th>
<th>Time frame</th>
<th>Type of study</th>
<th>Morbidity</th>
<th>Mortality</th>
<th>Length of stay</th>
<th>Convergence rate</th>
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</thead>
<tbody>
<tr>
<td>Talamini et al, 2013</td>
<td>1998-2010</td>
<td>Retrospective</td>
<td>PC 4.1%</td>
<td>CCY 8.5%</td>
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<td>PC&gt;CCY</td>
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<td>p&lt;0.05%</td>
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<td>Oleynikov D. et al, 2013</td>
<td>2007-2011</td>
<td>Retrospective</td>
<td>PC 5%</td>
<td>CCY 8%</td>
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<td>PC&lt;CCY 26.5%</td>
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<td>McGillcuddy et al, 2012</td>
<td>2000-2009</td>
<td>Retrospective</td>
<td>PC 4%</td>
<td>CCY 9.2%</td>
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<td>PC&lt;CCY</td>
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<td>p&lt;0.05%</td>
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<td>Abi-Haidar et al, 2012</td>
<td>2001-2010</td>
<td>Retrospective</td>
<td>PC 2.9%</td>
<td>CCY 1.9%</td>
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<td>PC&lt;CCY 24%</td>
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Studies comparing percutaneous cholecystostomy (PC) vs cholecystectomy (CCY)

A nationwide examination of outcomes of percutaneous cholecystostomy compared with cholecystectomy for acute cholecystitis (Surg Endosc (2013) 27:3406–3411)

Emergent cholecystostomy is superior to open cholecystectomy in extremely ill patients with acalculous cholecystitis: a large multicenter outcome study (Am J Surg 2013 206(6), 935-941)

Non-operative management of acute cholecystitis in the elderly (Br J Surg 2012; 99: 1254–1261)


Limitations in the literature

- Recommendation grading (Guyatt and colleagues) - 2C
- No randomized/prospective trials
Cholecystitis in cirrhosis and pregnancy

• AC in Cirrhosis
  – Morbidity rates child A 18%; Child’s B 37% ; Child C 75%
  – MELD score $>13$ - complication rates

• AC in pregnancy
  – Conservative management in 1st and 3rd trimester
Gall bladder mass – indications for non-surgical management

• Unresectable tumors Stage III/IV
  – 5-year survival rate 5% and 1% respectively
  – Median OS – 5.8 months

• Management
  – Biliary drainage procedures - ERCP/PTC
  – Clinical Trials
  – Gemcitabine or 5-FU based CTx
  – Best supportive care
Objectives of non-operative management

- Avoids general anesthesia risk
- Optimizes pt for definitive treatment
- Avoids Higher risk of conversion
- Decreases morbidity rate
Conclusion

To operate?  
or 
Not to operate!
References:-


• Emergent cholecystostomy is superior to open cholecystectomy in extremely ill patients with acalculous cholecystitis: a large multicenter outcome study. Am J Surg 2013 206(6), 935-941


• Non-operative management of acute cholecystitis in the elderly. British J Surg 2012; 99: 1254–1261
• NCCN guidelines consortium
• Laparoscopic management of appendicitis and symptomatic cholelithiasis during pregnancy. Langenbecks Arch Surg. 2006 Sep;391(5):467-71
Questions?
Cholecystitis in special considerations

- AC with ESRD - pro cholecystectomy (CCY)
- AC with COPD – pro CCY
- AC with CAD – optimized - favor CCY
- AC w. perforation – pro CCY
- AC with Cirrhosis
  - Morbidity rates child A 18%; Child’s B 37% ; Child C 75%
  - MELD score >13 - ↑complication rates