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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

Studies comparing percutaneous cholecysto

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

| Study group | Time frame | Type of study | Morbidity | | Mortality | | Length of stay | Conversion rate |
|--------------------------|------------|--|-----------|-----------------|-----------|-----------------|----------------|-----------------|
| | | | PC | CCY | PC | CCY | | |
| Talamini et al, 2013 | 1998-2010 | 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) | | | | | | |
| Oleynikov D. et al, 2013 | 2007-2011 | Non-operative management of acute cholecystitis in the elderly (Br J Surg 2012; 99: 1254–1261) | | | | | | |
| McGillcuddy et al, 2012 | 2000-2009 | Percutaneous Drainage versus Emergency Cholecystectomy for the Treatment of Acute Cholecystitis in Critically Ill Patients: Does it Matter? (World J Surg (2011) 35:826–833) | | | | | | |
| Melloul et al, 2011 | 2001-2007 | Revisiting Percutaneous Cholecystostomy for Acute Cholecystitis Based on a 10-Year Experience (Arch Surg. 2012;147(5):416-422) | | | | | | |
| Abi-Haidar et al, 2012 | 2001-2010 | Retrospective | 2.9% | 1.9% p<0.05% | 15.4% | 4.5% p<0.05% | PC<CCY | 24% |

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 – 5.8months
- 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

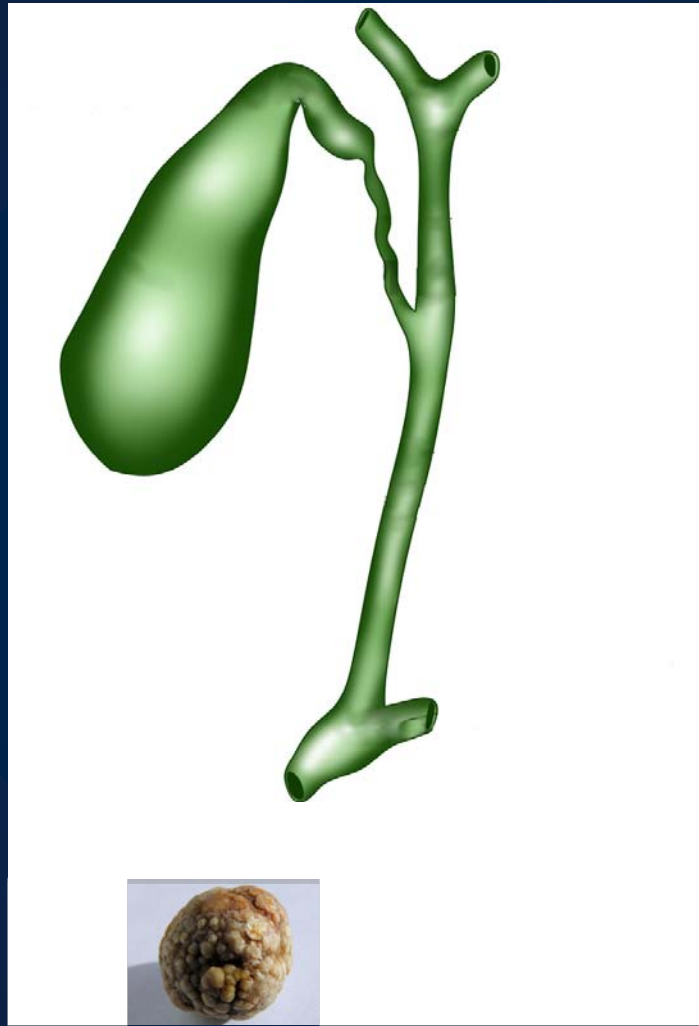
Conclusion

To operate?
or
Not to operate !

- References:-

- A nationwide examination of outcomes of percutaneous cholecystostomy compared with cholecystectomy for acute cholecystitis, 1998-2010. *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
- 2013 WSES guidelines for management of intra-abdominal infections. *World J Emerg Surg.* 2013; 8: 3.
- TG13 surgical management of acute cholecyst. *J Hepatobiliary Pancreat Sci.* 2013 Jan;20(1):89-96
- Non-operative management of acute cholecystitis in the elderly. *British J Surg* 2012; **99**: 1254–1261

- Revisiting Percutaneous Cholecystostomy for Acute Cholecystitis Based on a 10-Year Experience. Arch Surg. 2012;147(5):416-422
- Percutaneous Drainage versus Emergency Cholecystectomy for the Treatment of Acute Cholecystitis in Critically Ill Patients: Does it Matter? World J Surg (2011) 35:826–833
- NCCN guidelines consortium
- Laparoscopic management of appendicitis and symptomatic cholelithiasis during pregnancy. Langenbecks Arch Surg. 2006 Sep;391(5):467-71
- Cirrhosis is not a contraindication to laparoscopic cholecystectomy: results and practical recommendations. HPB (Oxford). 2011 Mar;13(3):192-7.




Questions ?

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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



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