Acute Cholecystitis in Pregnancy: CURRENT MANAGEMENT

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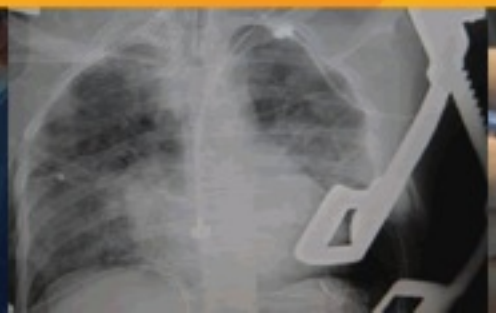
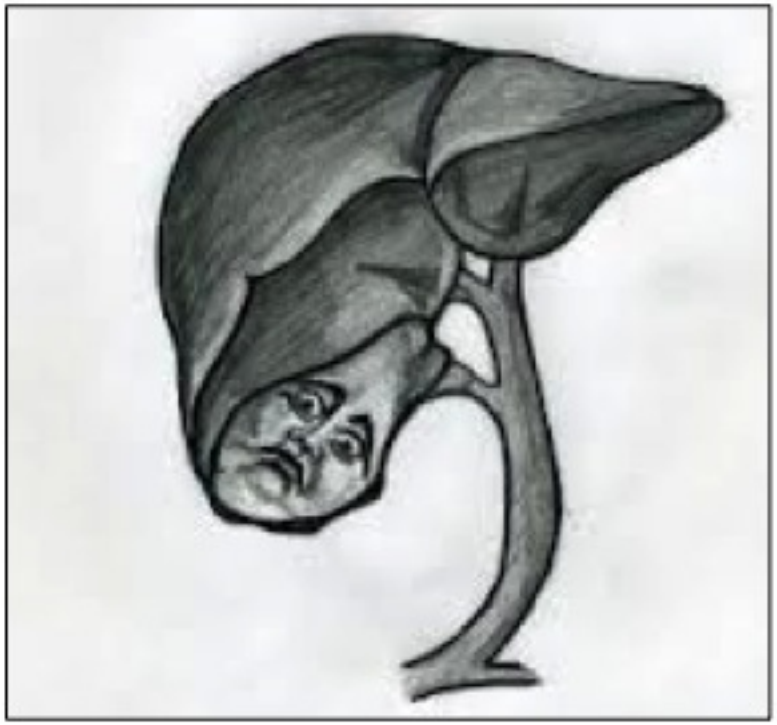
Injury 2013.

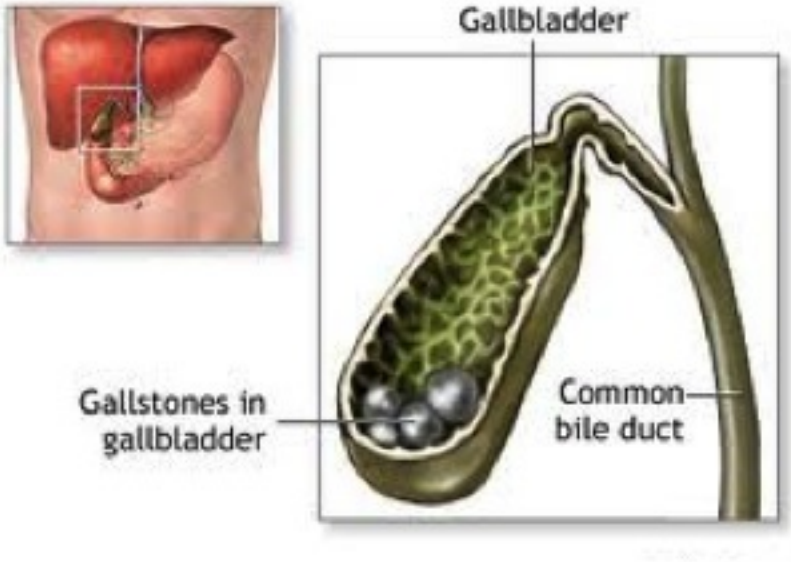
Overview

- Definition
- Pathogenesis of acute cholecystitis
- Incidence of gallbladder disease in pregnancy
- Principles of management of acute cholecystitis
- Evidence to support use of Laparoscopic Cholecystectomy in pregnancy



Cholelithiasis

- **Greek:** *chole* “bile”; *lithos* “stone”
- One of the most common disorders of the gastrointestinal tract: 10% people in Western countries
- >80% are asymptomatic



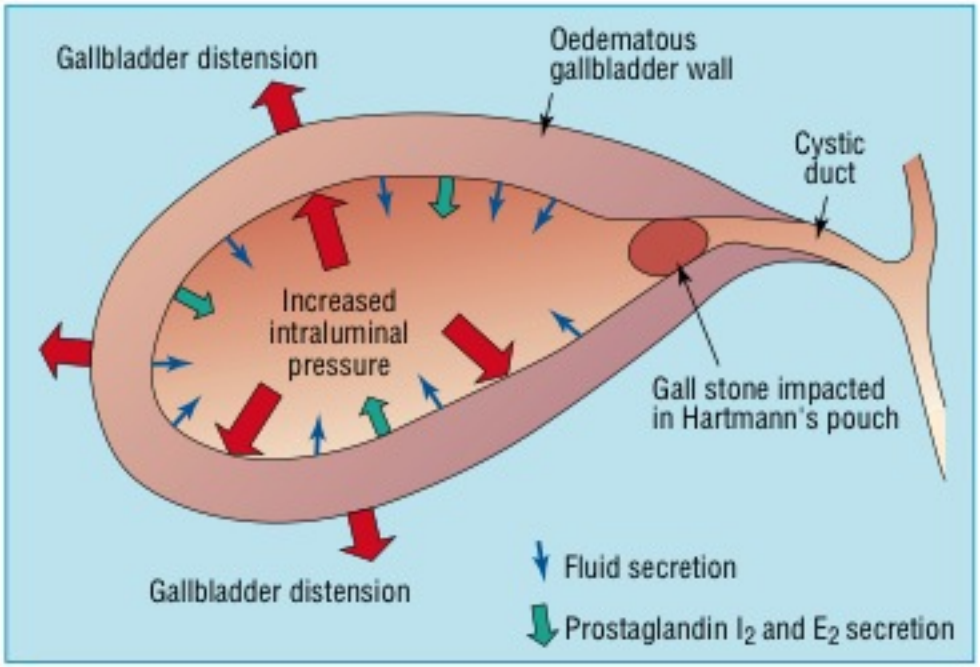
Cholecystits

- **Greek:** *cholecyst*, “gallbladder”; suffix *–itis* “inflammation”
- One of the complications of cholelithiasis
- Inflammation of the gallbladder
- Develops in 1-3% of patients with symptomatic gallstones

Pathogenesis:

- >90% due to obstruction of the cystic duct by gallstones of biliary sludge

Pathogenesis



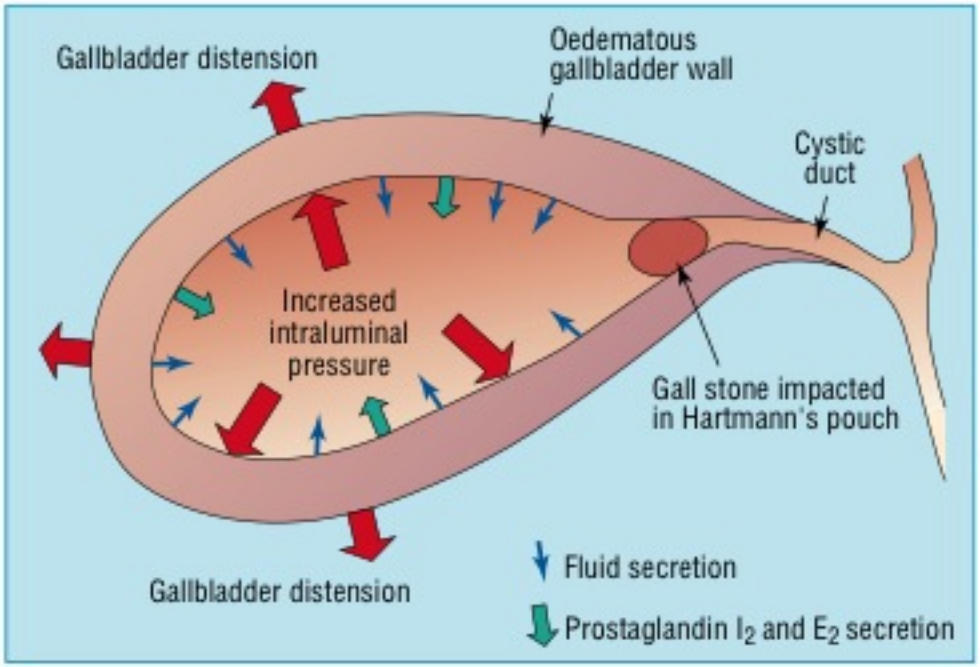
↑ intraluminal pressure

&

supersaturated bile

- Triggers an acute inflammatory response

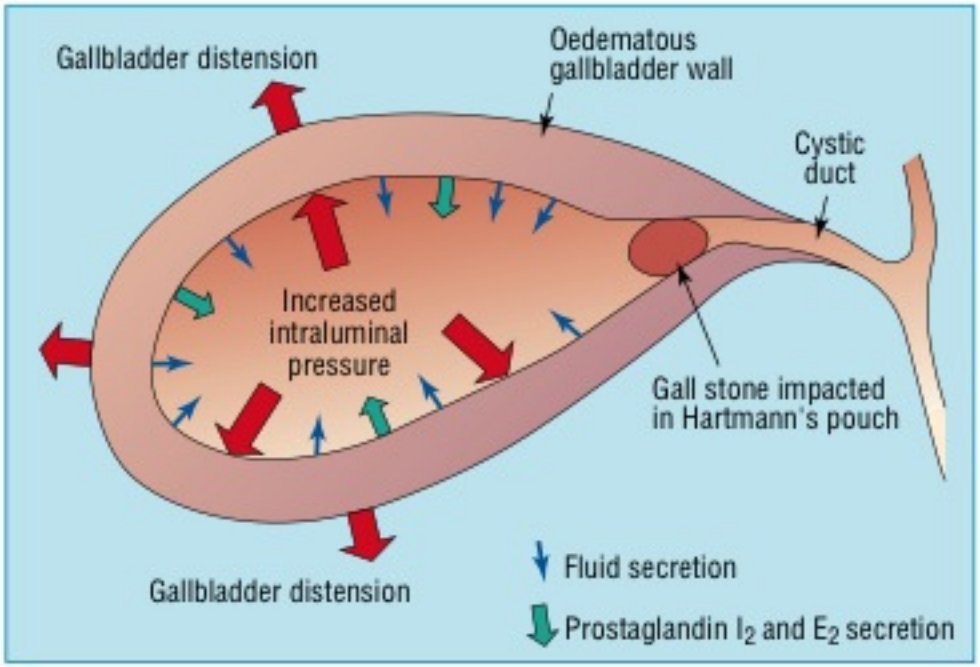
Pathogenesis



Local trauma from gallstones:

- Synthesis of prostaglandins
- Mediate inflammatory response

Pathogenesis



Secondary Bacterial Infection

- *Klebsiella*
- *E. Coli*
- *Strep faecalis* spp

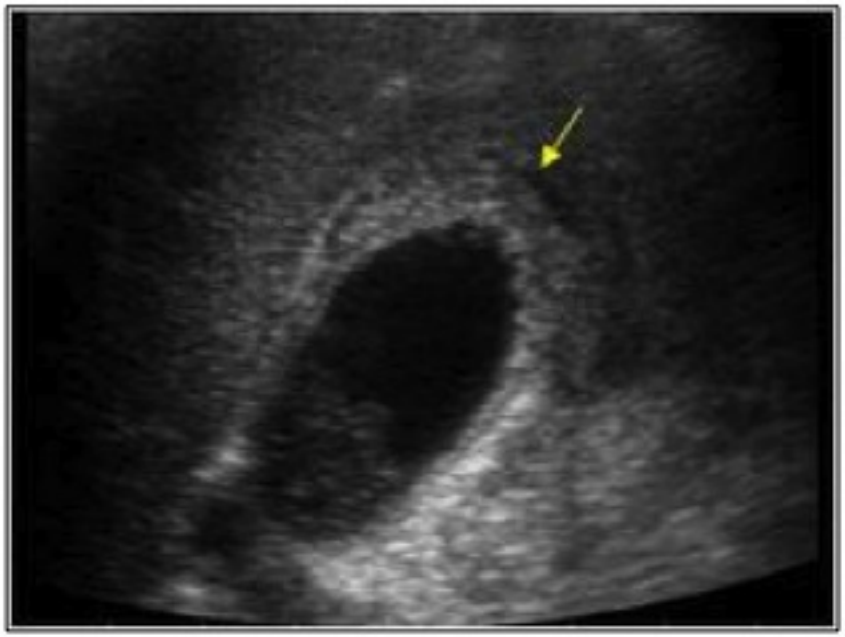
(approximately 20% cases)

Presentation

- RUQ pain
  - Constant for >12 hours
- RUQ tenderness
  - +/- Murphy's sign
- Signs of inflammation
  - Fever
  - Elevated CRP, WCC
- +/- Past history of biliary colic
- Signs of septicemia
  - Bacterial colonisation
- Jaundice
  - Severe acute inflammation <60µmol/l
  - Choledocholithiasis
  - Mirrizzi's syndrome

Investigations

- Ultra-sound:
  - Confirms cholelithiasis
  - May show features of cholecystitis



Cholelithisis:

Radiological Diagnosis

Cholecystitis:

Clinical Diagnosis

Complications

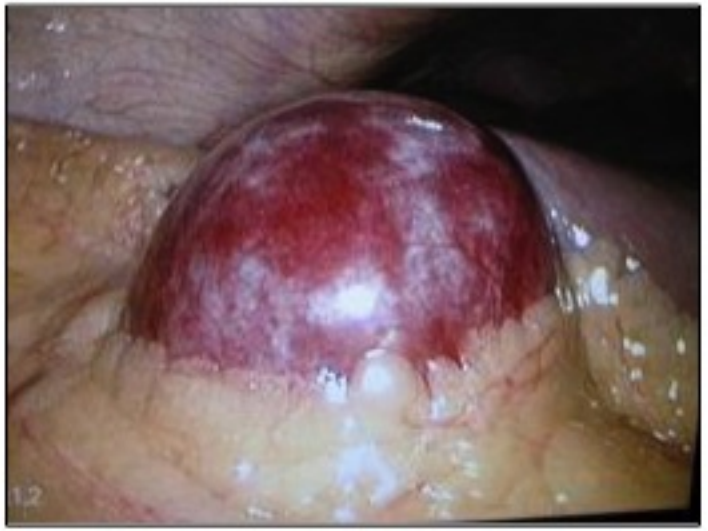
- Complications of acute cholecystitis include:
  - Septicemia secondary to bacterial colonisation of the gallbladde
  - Empyema of the gallbladder
  - Gangrenous cholecystitis
  - Septic shock with multi-organ failure
- Complications of cholelithiasis include:
  - Biliary obstruction: choledocholithiasis, Mirrizzi's syndrome
  - Cholangitis
  - Gallstone pancreatitis
  - Gallstone ileus (small bowel obstruction)

Management of Acute Cholecystits

- Fluid resuscitation, intravenous antibiotics, analgesia
- Laparoscopic cholecystectomy:
  - Lai et al, then Lo et al,1998.
  - Within 72 hours

Aim of treatment:

- Relief of symptoms (pain)
- Prevention of complications
  - Acute cholecystitis
  - Cholelithiasis



Pregnancy

- High oestrogen:
  - Increased cholesterol saturation
- High progesterone:
  - Decreased gallbladder emptying
  - Increased resting gallbladder volume
  - Impaired response to cholecystokinis

Increased incidence of cholelithiasis

Symptomatic Gallstone Disease in Pregnancy

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- Second most commonly encountered surgical problem (after acute appendicitis)
  - 0.05-0.1% of all gestations (US)
- Patients present in all trimesters:
  - 1st: 19% - 26%
  - 2nd: 38% - 69%
  - 3rd: 6% - 36%
- Most patients can be managed non-operatively however:
  - recurrence rates of up to 60% reported
  - up to 90% of these patients require hospitalisation
  - fetal loss in 10-20% (higher in acute pancreatitis)

Safety of Laparoscopic Cholecystectomy in Pregnancy

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- First described in 1991 by Weber et al
- Primary surgical management: better outcomes compared to patients managed non-operatively
  - Recurrence of symptoms 19% v's 60%
  - LUCSC rates: 8% v's 34%
  - Fetal loss: 2.5% v's 7%
- Laparoscopic surgery has been shown to be safe in pregnancy
  - Laparoscopic appendicectomy

Laparoscopic Cholecystectomy

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ORIGINAL ARTICLE: Clinical Endoscopy

Conservative management of cholelithiasis and its complications in pregnancy is associated with recurrent symptoms and more emergency department visits

Mohamed O. Othman, MD,[1] Eric Stone, MD,[2] Mariam Hashimi, MD,[3] Gubhan Parasher, MD[2]
Albuquerque, New Mexico, USA

Clin Endosc 2012

Surgical Management of Biliary Gallstone Disease during Pregnancy

Carlos A. Cosenza, MD, Bahman Saffari, MD, Nicolas Jabbour, MD, Steven C. Stain, MD, David Garry, MD, Dilip Parekh, MD, Robert R. Selby, MD, *Los Angeles, California*

Am J Surg 1999

Surg Endosc (2010) 24:108–112
DOI 10.1007/s00464-009-0544-x

Is there a benefit to delaying cholecystectomy for symptomatic gallbladder disease during pregnancy?

Rajeev Dhupar · Gina Mantia Smaldone · Giselle G. Hamad

Surg Endosc 2010

Laparoscopic Cholecystectomy

Surg Endosc (2008) 22: 54–60
DOI: 10.1007/s00464-007-9220-1

SURGICAL ENDOSCOPY

Management of biliary tract disease during pregnancy: a decision analysis

Eric B. Jelin,[1] Douglas S. Smink,[2] Ashley H. Vernon,[2] David C. Brooks[2]

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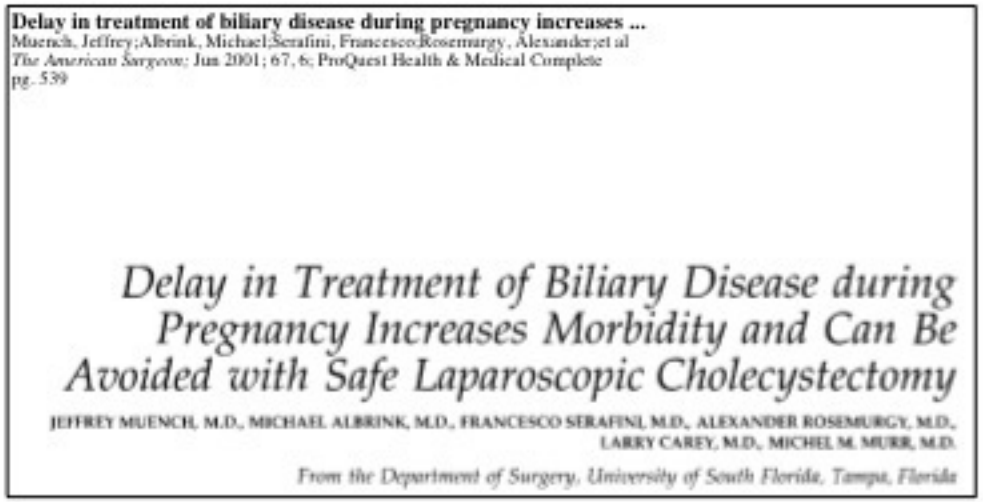
[2] Department of Surgery, Brigham and Women's Hospital, Boston, MA, USA

Surg Endosc 2008



Delay in treatment of biliary disease during pregnancy increases ...
Muench, Jeffrey;Albrink, Michael;Serafini, Francesco;Rosemurgy, Alexander;et al
The American Surgeon; Jun 2001; 67, 6; ProQuest Health & Medical Complete
pg. 539

Delay in Treatment of Biliary Disease during Pregnancy Increases Morbidity and Can Be Avoided with Safe Laparoscopic Cholecystectomy

JEFFREY MUENCH, M.D., MICHAEL ALBRINK, M.D., FRANCESCO SERAFINI, M.D., ALEXANDER ROSEMURGY, M.D., LARRY CAREY, M.D., MICHEL M. MURR, M.D.

From the Department of Surgery, University of South Florida, Tampa, Florida

Am Surg 2001

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Special Considerations

- Mutli-disciplinary care:
  - Obstetric service
  - Experienced surgeon
  - Anaesthetic service
- Use of peri-operative and intra-operative fetal monitoring
- Left lateral decubitus position to avoid IVC compression
- Hasson trocar technique
- Intra-abdominal pressure 12-15mmHg
- Port positioning determined by size of uterus

Special Considerations

- Abdominal-pelvic shield during intra-operative cholagiogram allows for safe IOC
- Late 3rd trimester
  - Technically very difficult (if possible at all)
  - Non-operative, medical management recommended, with view to proceed to laparoscopic cholecystectomy post-partum
  - Optimal time: not determined

Summary

- Acute cholecystitis not common in pregnancy, however total numbers are significant
- Principles of management are the same as for the non-pregnant woman
- Early laparoscopic cholecystectomy has been shown to be safer than non-operative management for both mother and child, including a lower rate of fetal loss
- Multidisciplinary care by specialised units recommended
- Some technical considerations required
- Patients presenting late in the third trimester may be managed non-operatively until delivery, with cholecystectomy performed post-partum

Thank-you! ka.martin@alfred.org.au

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