WHAT TO EXPECT WHEN YOU’RE EXPECTING – THE GIT VIEW

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WHAT TO EXPECT WHEN YOU’RE EXPECTING – THE GIT VIEW
GORD

• Common
• Multi factorial
  → ↓ LOS due to ↑ hormones esp progesterone
GORD

• Usually Rx symptomatic
  – Early meals
  – Elevate head of the bed
  – Lying on left side
  – Avoid exac factors:
GORD

• Pharmacological therapy
  – Antacids – well tolerated and minimal teratogenic effect
  – H2RA
    • Well tolerated and safe
  – PPI
    • ?unknown effect in pregnancy
    • Omeprazole (FDA C) – embryonic and fetal mortality,
    • Newer PPI safe in animal studies (FDA B)
    • Limit use of omeprazole in pregnancy and all PPI in 1st trimester
GALLSTONES AND COMPLICATIONS

• Acute cholecystitis
  – Conservative Rx:
    • Consider if recurrent episodes and risk to fetus,
    • Complications of gallstone
    • 27% fail to respond
  – Surgical intervention
    • Defer if possible to 2nd trimester
    • LC
      – Less manipulation of uterus
      – ↓post op Cx eg DVT

• Pregnancy causes alterations in bile composition,
  ↑sludge and stone formation
  – ↑choledocholithiasis and gallstone pancreatitis
ENDOSCOPY IN PREGNANCY

- Safe with appropriate measures
  - Defer to 2nd trimester
  - Lowest dose of sedative medication
  - Minimise procedure time
  - Position patient in left lateral position to avoid vena caval or aortic compression
  - Fetal heart sounds confirmed before sedation and after procedure is completed
ENDOSCOPY IN PREGNANCY

• **ERCP₈**
  – Required if high likelihood that therapeutic intervention is required
  – Safe for mother and fetus
    • Lead sheets under the pelvis and lower abdomen
    • Fluoroscopy should be brief
    • Directed X-ray beam to area of interest
  – Usually sphincterotomy and stone extraction
    • No ↑ risk of pancreatitis
LIVER DISEASE AND PREGNANCY

• Abnormal LFT 3-5%
  – Physiological changes in pregnancy
  – Newly acquired liver disease
  – Pre existing liver disease
  – Pregnancy related liver disease
PHYSIOLOGICAL CHANGES IN PREGNANCY

• Unique pattern
• Expected changes
  – ↓ albumin 2° to ↑maternal plasma volume
  – ↑ ALP related to placenta
    • Difficult to use as marker for cholestasis
    • ↑GGT - need to exclude significant pathology
• Clinical findings
  – Telangiectasia and palmar erythema
  – Occur in 60% pregnancy due to ↑oestrogen and progesterone production by placenta
PREGNANCY RELATED LIVER DISEASES

• Hyperemesis Gravidarum \((HG)_2\)
  – Persistent vomiting with weight loss > 5% prepregnancy body weight
  – Abnormal LFT 16% (2)
    • Multifactorial: dehydration and starvation
    • ALT > AST
    • Jaundice unusual
    • Respond to rehydration, antiemetics and antihistamines
PREGNANCY RELATED LIVER DISEASES

- INTRAHEPATIC CHOLESTASIS OF PREGNANCY (ICP)
  - Pruritus and elevated bile salts 2\textsuperscript{nd}/3\textsuperscript{rd} trimester
  - Resolution after delivery
  - ALT sensitive test for diagnosis
    - GGT normal/slightly increased
    - Elevated bile salts
  - Recurs in subsequent pregnancies
    - Maternal outcomes good
    - Fetal risk: prematurity/ IUFD,
PREGNANCY RELATED LIVER DISEASES

• ICP

  – Pathophysiology
  • Genetic, hormonal and exogenous factors
  • Mutations in MDR₉
    – ABCB4 mutation
    – prevents transporting of phospholipids and results in elevated BA levels as secondary effect
  • Role of oestrogen/progesterone
    – Inhibit bile salt export pump (Bsep)₉
    – Increased levels during pregnancy result in impaired sulfation
PREGNANCY RELATED LIVER DISEASES

• ICP
  – Rx:
    • Ursofalk:
      – prolong pregnancy and reduce risk of prematurity
      – Decrease cholestasis by cytoprotection against hepatotoxic effects of hydrophilic bile acids
      – Increase hepatobiliary BA transport
    • Early delivery (36-38 weeks)
      – Prevent IUFD
PREGNANCY RELATED LIVER DISEASES

• PRECLAMPSIA/ECLAMPSIA
  – Usually proteinuria and HT
  – Can affect the liver especially HELLP
    • Usually 3rd trimester
    • Usually on clinical and biochemical grounds
  – Risk factors
    • Hx of preeclampsia
    • Presence of antiphospholipid antibodies
    • Pre existing DM
    • Pre pregnancy BMI > 35
    • Maternal age > 40
    • Nulliparous
    • Twin or multiple births
PREGNANCY RELATED LIVER DISEASES

• ACUTE FATTY LIVER PREGNANCY (AFLP)
  – Rare
  – N & V, abdominal pain, anorexia and jaundice
  – Rarely have pruritus
  – Can have proteinuria and HT
  – Mild ↑ aminotransferase, bilirubin always elevated
  – Reverse rapidly after delivery and not associated with progression to cirrhosis
PREGNANCY RELATED LIVER DISEASES

• AFLP
  – maternal mortality 10% and fetal mortality up to 50%
    • Does not resolve before delivery: haemorrhage, acute liver failure, encephalopathy, IUFD
    • Improved with early detection and delivery
  – Can reoccur in subsequent pregnancies
  – Inherited defects
    • LCHAD (mutation c1528G>C) in infant and mother
PRE EXISTING LIVER DISORDER

• HEPATITIS B (HBV)
  – 350-400 million individuals chronically infected
  – Many females of reproductive age and therefore a number of specific issues
    • Perinatal transmission
    • Use of antiviral therapy during pregnancy and breastfeeding
    • Changes in immune system during pregnancy and post partum
PRE EXISTING LIVER DISORDER

• HBV
  – Transmission
    • HBeAg⁺ 90% perinatally transmission c/w HBeAg⁻ 30%
    • Modes of transmission
      – In utero infection
        » Usually acute HBV 3rd trimester, 2º infection of placental capillaries
        » Direct inoculation during delivery – most common
        » Post natal transmission during breastfeeding
    • Minimal risk, consider immunoprophylaxis if high viral load
IF YOU HAVE HEPATITIS B, PROTECT YOUR BABY
US THIS CHART TO TRACK YOUR CARE AND YOUR BABY'S CARE

DURING PREGNANCY
- Get tested:
  - If you are at risk
  - If your partner is infected
- Give your newborn breast milk or formula
- Make sure your partner and all those living with your partner are tested for hepatitis B
- See a doctor regularly for hepatitis B

AT BIRTH
- Let the staff at the hospital know you have hepatitis B
- Give your newborn the 1st shot of hepatitis B vaccine (HepB) within 12 hours of birth to protect from infection
- Give your newborn the 2nd shot of the hepatitis B vaccine (HepB) 1 month later
- Your baby needs 3 shots:
  - One shot of hepatitis B vaccine (HepB)
  - One shot of hepatitis B immune globulin (HBIG)

1-6 MONTHS
- Make sure your baby receives the 2nd shot of the hepatitis B vaccine (HepB) and the 1st shot of the hepatitis B immune globulin (HBIG)
- Your baby needs 3 shots:
  - One shot of hepatitis B vaccine (HepB)
  - One shot of hepatitis B immune globulin (HBIG)

6-9 MONTHS
- Make sure your baby gets a blood test to check if he or she is protected after the doses. If it is still positive:
  - Your baby may need a special injection
  - Your baby must be monitored with hepatitis B lab tests

IF YOUR BABY IS CARED FOR IN CHINA
- The doctor must tell the new doctor that your baby needs hepatitis B shots. It is important to make sure your baby gets the 2nd and 3rd doses of the vaccine.
- Your baby needs 3 shots at 2, 1, and 6 months and a booster at 18 months. You must bring your child's immunization records from China to the US, and schedule a check up for your child. Immunization records are needed for children to enter school.
PRE EXISTING LIVER DISORDER

• HBV

  – Interventions to reduce transmission
    • Administration of HBIG and HBV vaccination to neonate after deliver
      – ↓ transmission by 90%
      – ↓ efficacy in HBeAg + in setting of high level maternal HBV DNA
      – Not useful for interrupting in utero transmission (3rd trimester)
PRE EXISTING LIVER DISORDER

• HBV
  – Interventions to reduce transmission
    • Use of antiviral therapy in late pregnancy
      – Lamivudine: meta analysis English and Chinese literature
        » intrauterine transmission ↓13-27% as measured by HBsAg in infant
        » Usually continued for 4-6 weeks post deliver
      – Tenofovir (4)
        » ?More efficacious
        » Data from HIV registry
        » Start at 32 weeks and continue for 4 weeks post partum
PRE EXISTING LIVER DISORDER

– HBV

  • Immunological changes
    – Post partum flare
    – ?immunosuppressive effect of pregnancy with subsequent resurgent immune system during the post partum
      » ↑ LFTs post partum: progressive fibrosis or risk of hepatic decompensation (depending on baseline)
      » ?window of opportunity therapy/natural HBsAg seroconversion
IBD AND PREGNANCY

• Key points
  – Pre conception counselling
  – Pregnancy whilst on immunosuppressive medication
  – Effect of IBD on delivery and breast feeding
IBD AND PREGNANCY

• Pre conception counselling
  – Genetic component: 7
    • 1 parent: 8-11%
    • 2 parents: 20-35%
  – Fertility
    • Disease activity:
      – CD decreased fertility but can normalise during remission
      – UC: normal fertility until had surgical treatment
        » ?scarring, adhesions, tubal involvement
  – Pregnancy outcomes
    • Variable outcomes from studies
    • Risk of pre term birth, LBW, small for gestational age infants
IBD AND PREGNANCY

• Safety of medical therapies for IBD in pregnancy
• ASA
  – FDA B
  – Crosses the placenta to reach the fetus
  – Receive folic acid supplementations to prevent development of foetal neural tube defect
  – Men: oligospermia and infertility. Reversible when ceased.
  – Pregnancy outcomes similar to general population
IBD AND PREGNANCY

• Immunomodulation
  – FDA D
  – Fetus lacks enzyme to convert AZA 6 MP to active metabolites → protected against teratogenicity effects
  – Safe to be used during conception and pregnancy
    • Stopping medication ppt flare and therefore adverse outcome
IBD AND PREGNANCY

• Corticosteroids
  – Placenta contain enzyme to inactivate CS so majority of fetal circulation is fetal adrenal cortisol
  – Dexamethasone not inactivated and pass through placenta freely therefore avoid during conception and pregnancy
IBD AND PREGNANCY

• CSA$_5$
  – Meta analysis:
    • 410 transplant patients
      – Congenital abnormalities 4.1% similar to general population
      – Stable on CSA then good pregnancy and fetal outcome.
IBD AND PREGNANCY

• Biological agents (Infliximab, Humira)
  – Retrospective registry studies or case reports,
    • Infliximab Safety Database, Treat Registry, PIANO
      – Pregnancy outcomes after exposure to anti TNF Rx no different
      – Low fetal risk 1st and 2nd trimester
      – No increase tetrogenicity
  – Late 2nd and 3rd trimester
    • Trans-placental passage
    • ?effect on neonatal immune system
      – ?increase risk of infection
      – ?↓efficacy of vaccination
    • Recommendation Rx be ceased after 30 weeks gestation when possible to limit fetal exposure
IBD AND PREGNANCY

• Breastfeeding
  – Most medications safe during pregnancy
  – Women need to understand benefits vs. risks
IBD AND PREGNANCY

• Multi disciplinary
  – Patient/partner
  – Treating physician
  – Gastroenterologist
  – obstetrician
REFERENCES


5. Giles M et al, Chronic Hepatitis B Infection in Pregnancy, OB & Gyn Survey, 67(2012), 37-44


