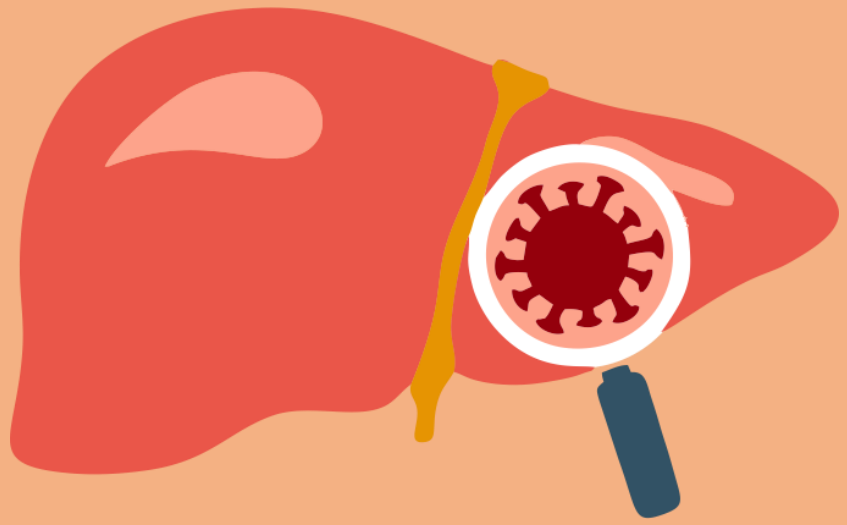
# PRAKASH

PRogrammed Approach to Knowledge And Sensitization on Hepatitis



HEPATITIS INDUCTION PROGRAM

# Viral Hepatitis in Pregnancy

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- Viral hepatitis is the commonest cause of jaundice in pregnancy.
- Hepatitis is mostly restricted to the ill-nourished mothers, living in unhygienic environment.
- There is also increased incidence of its affection in the pregnant state compared to the non-pregnant one.

# HEPATITIS

- It refers to the inflammation of the liver that is caused by a variety of infectious virus and non infectious agents leading to a range of health problems, some of which can be fatal.

# TYPES OF HEPATITIS VIRUS

- At present six distinct types of highly contagious hepatitis virus have been identified.

- Each type has different clinical effect to the pregnant women and her fetus.

# TYPES OF HEPATITIS VIRUS

- Hepatitis – A (RNA)
- Hepatitis – B (DNA)
- Hepatitis – C (RNA)
- Hepatitis – D (RNA)
- Hepatitis – E (RNA)
- Hepatitis – G (RNA)

# Hepatitis A (HAV)

- Infection is spread by fecal-oral route.
- Disease is usually self limited and fulminant hepatitis is rare.
- Chronic carrier state does not exist.

# Hepatitis A (HAV)

- Perinatal transmission is rare.
- The virus is not teratogenic.

# Hepatitis A (HAV)

- Incubation period is 15-50 days.

# Hepatitis A (HAV):CLINICAL FEATURES

- **SYMPTOMS**
- Malaise
- Fever
- Fatigue
- Anorexia
- Nausea
- Right upper quadrant / epigastric pain

# Hepatitis A (HAV): CLINICAL FEATURES

**SIGNS**

- Jaundice
- Tender hepatomegaly
- Dark coloured urine
- Chalky white stool.

# Hepatitis A (HAV): CLINICAL FEATURES

**FULMINANT HEPATITIS**

- Coagulopathy
- Encephalopathy

# DIAGNOSIS

**SEROLOGY**

- Diagnosis is confirmed by detection of IgM antibody to hepatitis A.

**LAB. FINDINGS**

- Serum aminotransferase is elevated >1000-2000U/L
- Total serum and direct bilirubin is also elevated to > 10mg/dl

# COURSE IN PREGNANCY

- Severity of disease increases with advancing gestational age.
- Following complications are seen;
- Preterm labour
- Placental abruption
- PROM

# Hepatitis B virus (HBV)

- It is a global public health problem.

- The virus is transmitted by the following;
- parenteral route,
- sexual contact,
- vertical transmission and
- rarely through breast milk

# Hepatitis B virus (HBV)

Risk of transmission to fetus ranges from 10% in first trimester to as high as 90% in third trimester .

# Hepatitis B virus (HBV)

- Neonatal transmission mainly occurs at or around the time of delivery through mixing of maternal blood and genital secretions. Approximately 25% of the carrier neonate will die from cirrhosis or hepatic carcinoma, between late childhood to early adulthood.
- HBV is not teratogenic.

# Hepatitis B virus (HBV)

- **Maternal infection:** The acute infection is manifested by flu like illness as malaise, anorexia, nausea and vomiting.
- There may be arthralgia and skin rash.
- In majority, it remains asymptomatic.
- Jaundice is rare and fever is uncommon

# Clinical course (HBV):

- Nearly 90–95% of patients clear the infection and have full recovery.
- 1% develop fulminant hepatitis resulting massive hepatic necrosis.
- 10–15% become chronic.

# DIAGNOSIS

- Diagnosis is confirmed by serological detection of HBsAg, HBeAg, (denote high infectivity) and antibody to hepatitis B core antigen (HBc) and HBV DNA titer.
- Chronic carriers are diagnosed by presence of HBsAg or HBeAg and anti-HBc antibody and HBV-DNA titer  6 months after the initial infection.
- liver enzymes are elevated during the initial phase.

# SCREENING

- All pregnant women should be screened for HBV infection at first antenatal visit.
- It should be repeated during the third trimester for “high risk” groups (intravenous drug abusers, hemophilics, patients on hemodialysis or having multiple sex partners)

# Hepatitis C (HCV)

- It is recognized as the major cause of non-A, non-B hepatitis.
- It is responsible for chronic active hepatitis and hepatic failure.

# Hepatitis C (HCV)

- Transmission is mainly blood borne and to a lesser extent by fecal-oral route.
- Incubation period : 30-60 days.

# Hepatitis C (HCV)

- Perinatal transmission is 3-6%.
- Perinatal transmission (10–40%) is high when viral load is high and presence of coinfection with HIV and HBV.

# Hepatitis C (HCV) Diagnosis

- Women's history and lifestyle.
- Detection is by antibody to HCV by EIA, which develops usually late in the infection.
- Confirmation is done by recombinant immunoblot assay (RIBA-3).

# Clinical features

- 70% are asymptomatic.
- 30% have symptoms similar to hepatitis A and hepatitisB.

# Course of illness in pregnancy

- HCV is usually milder than HAV and HBV, but it leads to chronic infection(70%) and cirrhosis(20%).

- Probability of liver failure is 18%.

# Hepatitis D (HDV)

- It is seen in patients infected with HBV either as a co-infection or super infection.
- Perinatal transmission is known.
- Chronic carrier state is seen.
- Neonatal immunoprophylaxis for HBV is almost effective against HDV.
- Acute infection with fulminant course results in high maternal mortality (2–20%) due to hepatic failure.

# Hepatitis E (HEV)

- It behaves similar to hepatitis A virus infection.
- It may lead to fulminant hepatitis.
- ELISA can detect HEV specific IgG and IgM antibodies or by PCR.
- Chronic carrier state is present.
- Perinatal transmission is uncommon.
- Maternal mortality following acute infection is high (15–20%).

# Hepatitis G (HGV)

- It is related to hepatitis C virus.
- It is more prevalent but less virulent than HCV.
- Co-infection with hepatitis A, B, C and HIV is common.
- Chronic carrier state is known and perinatal transmission is documented.

# PROGNOSIS

- Fulminant hepatitis is more common in hepatitis E, less common in hepatitis C and rare in hepatitis A. Mortality is very high in fulminant type.

# PROGNOSIS

- **Maternal:**
- There is increased incidence of postpartum hemorrhage, hepatic coma, renal failure, coagulopathy, infection and hepatorenal syndrome.
- All these lead to increased maternal morbidity and mortality.
- Medical termination of pregnancy does not alter the prognosis of the patient.

# PROGNOSIS

- **Fetal:**
- There is increased incidence of abortion, preterm birth and intrauterine death leading to increased fetal wastage.
- Perinatal mortality is about 20–70%.

# PROPHYLAXIS

- Improvement in sanitation, supply of safe drinking water and adequate care of personal hygiene are the essential prerequisites.
- Use of disposable syringe or boiling of syringe prior to use.
- Screening of blood donors for HBsAg should be routinely done.

# PROPHYLAXIS

- HBV infection can be prevented by vaccination and the recombinant vaccine is safe in pregnancy.
- Pregnant woman who is seronegative, should have HB immunoglobulin (HBIG), 0.06 ml/kg IM, soon following exposure and a second dose after 1 month.
- Then she should be given recombinant DNA vaccine intramuscularly 1 ml, 3 doses at 0, 1 and 6 months.

# PROPHYLAXIS

- All infants born to HBsAg positive mothers should have HBIG 0.5 ml IM within 12 hours of birth.
- Active immunization with HB vaccine (0.5 ml) is also given IM at a separate site at the same time schedule
- Breastfeeding is not contraindicated.

# PROPHYLAXIS

- Similar to HIV, perinatal transmission of HBV depends on maternal viral load.
- Lamivudine and HBIG are effective to reduce the transplacental transmission of HBV to the fetus.
- Lamivudine is given 150 mg/day from 34 weeks.

# PROPHYLAXIS

- Hepatitis A: Both passive immunization (HAIG) and active immunization with killed virus vaccine are available for the mother.
- Health-care workers should receive hepatitis B vaccine and they should avoid needle stick injury and blood to blood contact.

# MANAGEMENT IN PREGNANCY

There is no specific treatment. It is generally supportive. Consultation with a hepatologist is ideal.

**Rest**: The patient should be put to bed rest, if necessary by hospitalization.

**Isolation**: The patient should be kept in isolation. Blood samples are to be collected with gloved hand.

Disposable syringes should be used.

The excreta is to be disposed carefully.

# MANAGEMENT IN PREGNANCY

- **Nutrition:**
- Diet rich in carbohydrate and adequate protein is to be prescribed. Initially, glucose drink, fruit juice may be given. Dietary fat restriction is not necessary.
- If the patient cannot tolerate oral feeding, 10% glucose may be given intravenously.

# MANAGEMENT IN PREGNANCY

- **Drugs: To prevent formation of the toxic nitrogenous compound from the bacterial flora of the gut, oral neomycin** (1 gm to be given 6 hourly) is helpful.
- Lactulose (15–30 ml three times daily), reduces colonic ammonia absorption and it acts as an osmotic laxative.
- Hepatotoxic drugs should not be used.
- **There is no place for termination of pregnancy.**

# MANAGEMENT IN PREGNANCY

**Prevention of complications:**

- Hypokalemia, hypoglycemia and hypocalcemia are corrected by regular blood checkup.
- Hemorrhagic complications are managed by giving blood or fresh frozen plasma.

# MANAGEMENT IN PREGNANCY

**During labor:**

- (a) Hepatotoxic drugs should be avoided.
- (b) To administer vitamin K, 5 mg intramuscularly to raise the prothrombin level (c) Prophylactic oxytocin is to be given.
- Hepatologists to be involved. Patient may need ICU management depending on liver function tests.

# SUMMARY


28TH JULY
WORLD
HEPATITIS
DAY


HEP
CAN'T
WAIT!
World Hepatitis Day 2021