STD in Pregnancy

Dr S.Murali

Infections

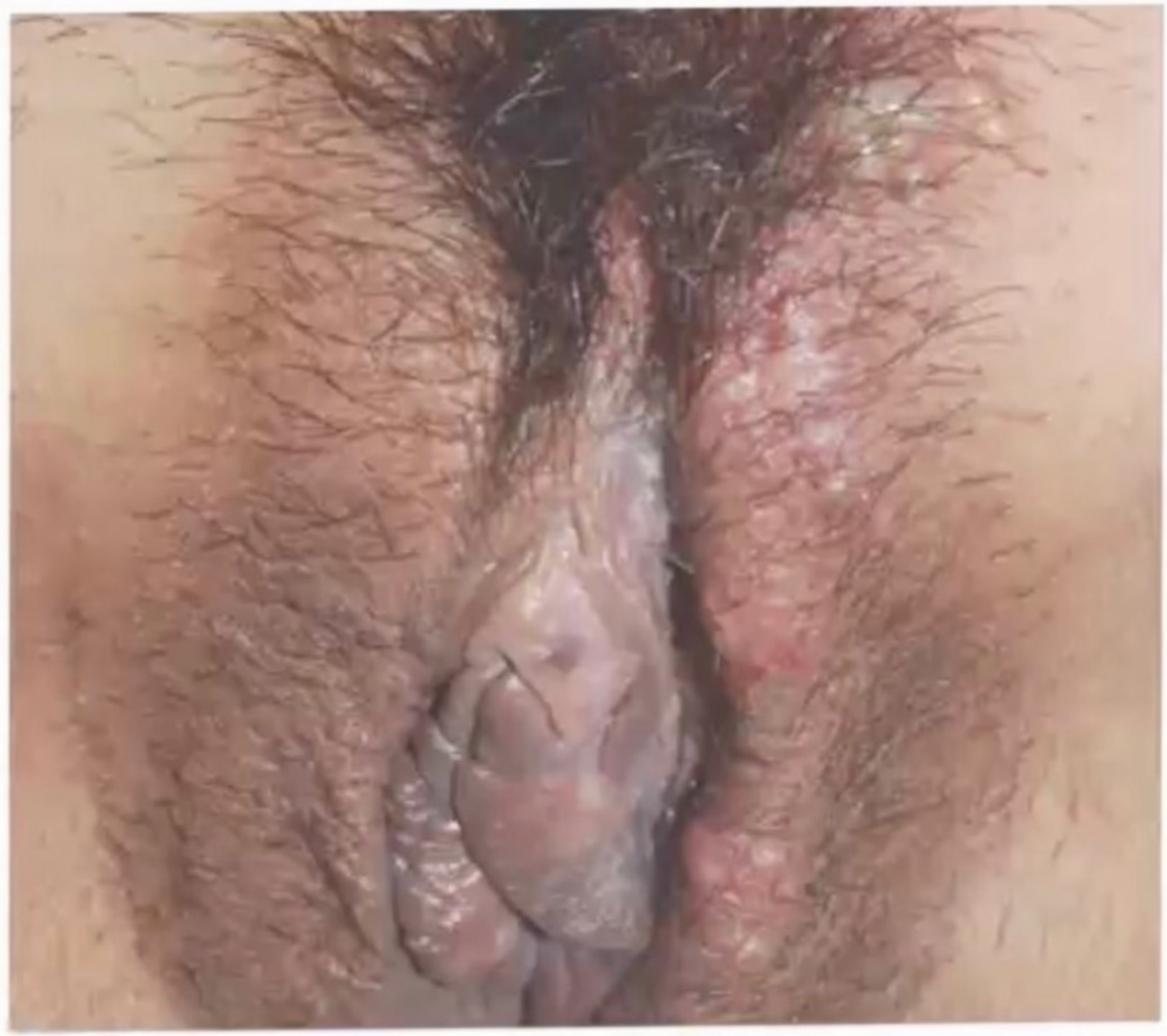
- HSV
- Syphilis
- Other STD
- Hep B and C

Herpes simplex- Genital herpes

- Common STD
- 1 in 6- seropositive
- 0.5 to 2 percent of pregnant women may acquire HSV-1 or -2 during pregnancy
- Genital herpes: upto 50% could be due to HSV-1; less recurrence risk

Clinical manifestations

- Primary infection
- Recurrent infection- fewer lesions, less pain
- Asymptomatic viral shedding



Transmission to neonate

- Neonatal transmission is by three routes:

(1) intrauterine -5 percent

(2) peripartum -85 percent

(3) postnatal - 10 percent

Risk of transmission

(1) Primary genital HSV near the time of delivery - 30- to 50-percent

(2) recurrent HSV -<1%

Effects on pregnancy

- No increased risk of miscarriage/still birth
- IUGR and preterm labor possible

- Rarely congenital malformations- mainly cerebral and skin defects
  TORCH

- Neonatal herpes infection

Neonatal HSV infection

	S/S	MORBIDITY	MORTALITY
Localized	Skin/eye/mouth SEM (40%)	< 2%	unusual
Neurological	Neurological abnormalities (30%)	20-50% MORBIDITY Developmental and CNS	6%
Disseminated neonatal herpes	**30%**		30%

Diagnosis: Pregnant lady with suspected Genital Herpes

- Clinical diagnosis sensitivity of 40%, specificity of 99% and false positive 20%- Not recommended by CDC
- Virus detection
  - Culture
  - PCR :more sensitive
- Serology :type specific
  - Antibodies detected within 2-3 weeks
  - Type specific assays available: antibody to HSV glycoproteins G1 and G2- HSV 1 and 2 respectively
  - ELISA
  - Ig G only checked ..not Ig M

Indication	Pregnancy Recommendation
Primary or first episode infection	Acyclovir, 400 mg orally three times daily for 7–10 days ***or*** Valacyclovir, 1 g orally twice daily for 7–10 days
Symptomatic recurrent infection (episodic therapy)	Acyclovir, 400 mg orally three times daily for 5 days ***or*** Acyclovir, 800 mg orally twice daily for 5 days ***or*** Valacyclovir, 500 mg orally twice daily for 3 days ***or*** Valacyclovir, 1 g orally once daily for 5 days
Daily suppression	Acyclovir, 400 mg orally three times daily from 36 weeks until delivery ***or*** Valacyclovir, 500 mg orally twice daily from 36 weeks until delivery

Mode of delivery

May breast feed if there are no active HSV breast lesions.
Strict hand washing is advised.

SYPHILIS

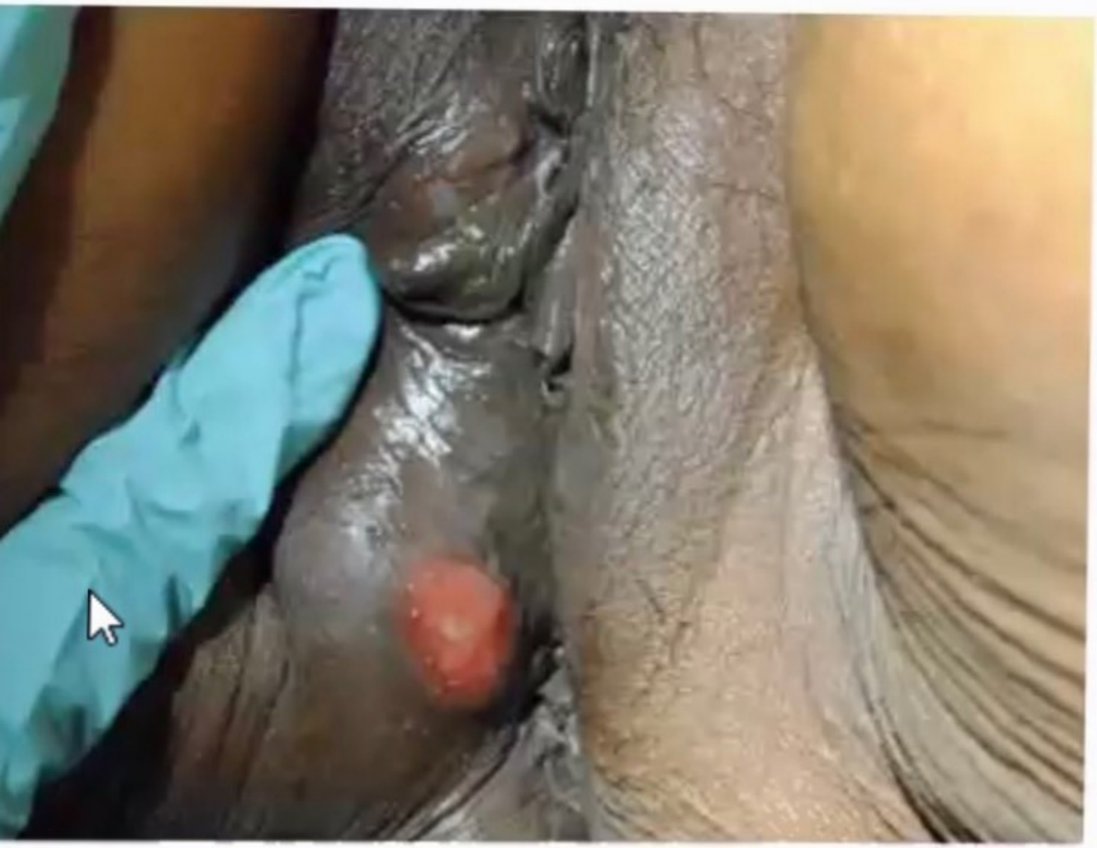
- Causative organism : treponema pallidum
- I.P. 3 weeks (3-90days)
- Transmission sexually or vertical
- Early stages: primary,secondary and early latent syphilis :highest transmission rates (30-50% fetal infection)
- Late latent syphilis (>1 YEAR):lowest incidence (10% fetal infection)

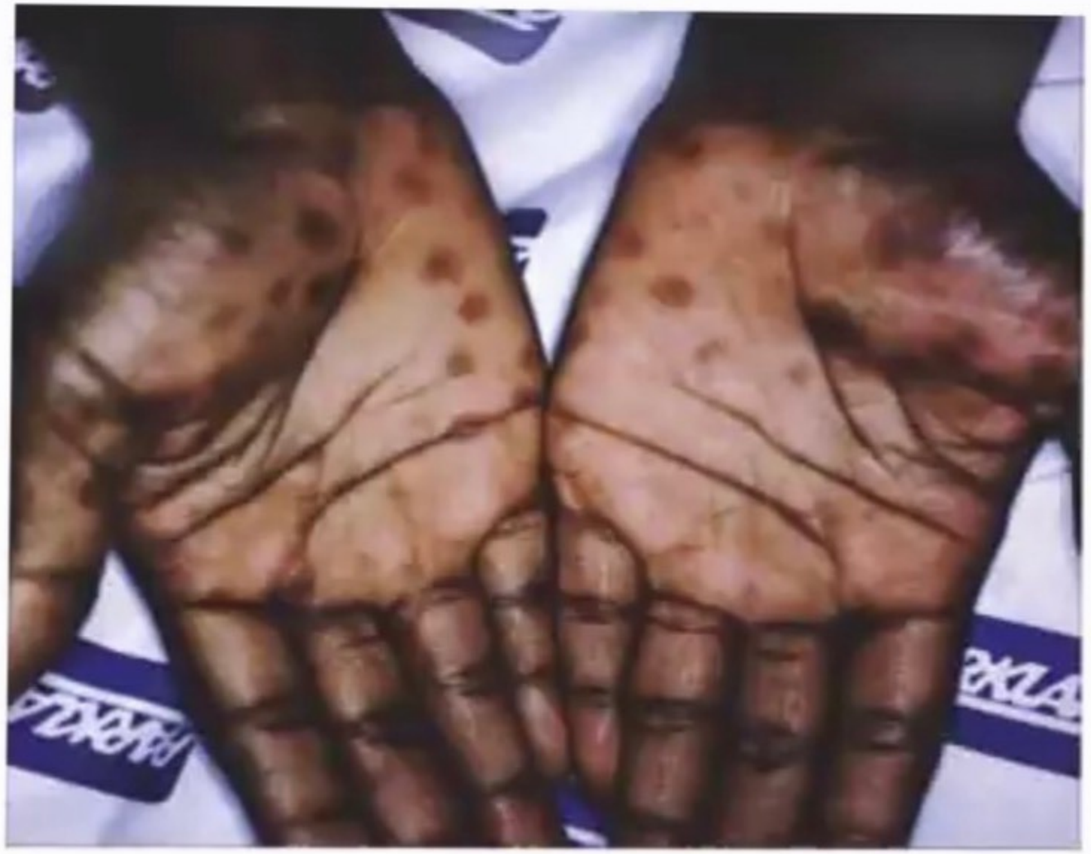
Fetal transmission :

Transplacental

Intrapartum- direct contact

- Risk of infection increases with gestation
- > 18 WEEKS of gestation- congenital syphilis; fetal immune response





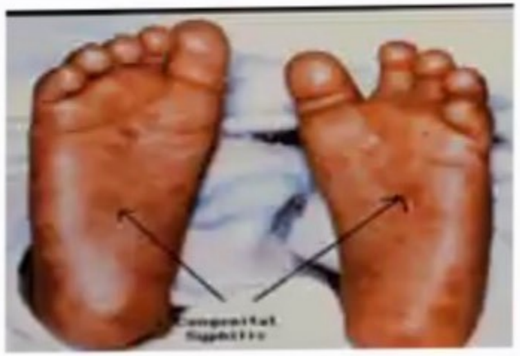
Pregnancy outcome

- Without screening and treatment- 70% of infected women adverse pregnancy outcome
- ? Abortion
- preterm labor
- fetal death, fetal-growth restriction, or fetal infection

Congenital syphilis

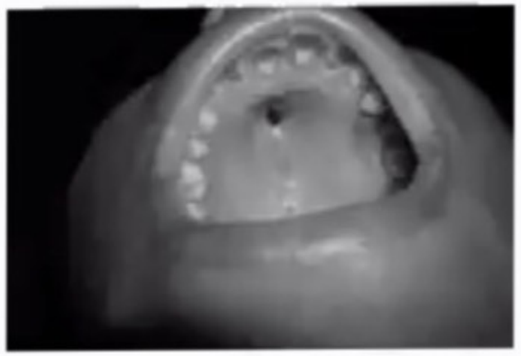
Early congenital syphilis

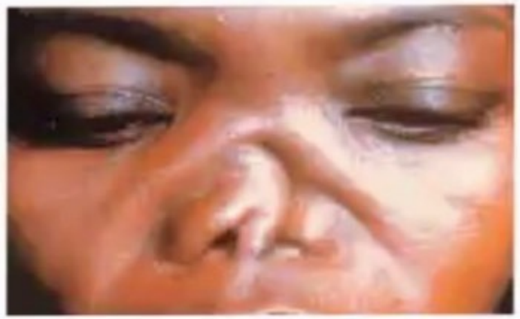
Jaundice
hepatosplenomegaly
rash , anemia
osteochondritis
periostitis
rhinitis



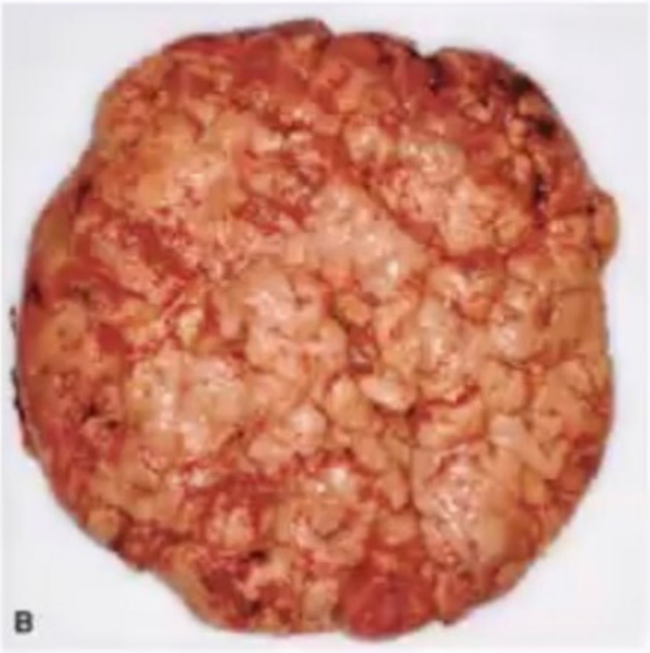
Late syphilis

Hutchison triad
Hutchison's teeth ; interstitial keratitis , deafness
Saddle nose
Frontal bossing
Saber shins





Placentomegaly



- Hydropic, large, pale
- HPE: villi lose their characteristic arborization and become thicker and clubbed
- Reduced blood vessels, endareteritis

Diagnosis

- Routine ANC screening
- First prenatal visit:

  Non- treponemal serological tests : VDRL,RPR

  +ve screening test

  confirm with Treponemal serologic tests

  FTA-Abs or TPA or MHA-TP
- Repeat test in high risk in 3rd trimester and time of delivery

Prenatal diagnosis

- USG :hepatomegaly placentomegaly, Ascites , hydrops and hydramnios
- Amniotic fluid: PCR

CDC treatment guidelines

Early syphilis	Latent syphilis	Neurosyphilis
Benzathine PnG 2.4 MU SD	Benzathine PnG 2.4 MU I.m weekly for three doses	aq PnG 3-4 MU 4 hrly for 10-14 days or Procaine PnG 2.4 MU i.m daily plus probenecid 500 mg orally QID for 10-14 days

Follow –up:

- Evaluation and presumptive treatment of contact within past 3 months even if seronegative
- Penicillin effective in treatment of syphilis and prevention of congenital syphilis
- Macrolides?
- Penicillin desensitization

Other STD

Miscarriage?
Preterm labor?
PPROM?

- Chlamydia

Regimen	Drug and Dosage
Preferred choice	Azithromycin, 1000 mg orally as a single dose
	or
	Amoxicillin, 500 mg orally three times daily for 7 days
Alternatives	Erythromycin base, 500 mg orally four times daily for 7 days
	or
	Erythromycin ethylsuccinate, 800 mg orally four times daily for 7 days
	or
	Erythromycin base, 250 mg orally four times daily for 14 days
	or
	Erythromycin ethylsuccinate, 400 mg orally four times daily for 14 days

Conjunctivitis
pneumonia

erythromycin estolate

STD

Septic abortion, preterm labor, PPROM
Chorioamnionitis
Disseminated Gonococcal Infections

Gonorrhea :

Ophthalmia neonatorum

- Ceftriaxone, 250 mg intramuscularly as a single dose

plus

Azithromycin, 1 gram orally as a single dose

Cefixime 400mg plus

STD

LGV- No Doxy

- erythromycin base, 500 mg orally four times daily, is given for 21 days

- CHANCROID

Azithromycin 1 g orally in a single dose
OR

Ceftriaxone 250 mg IM in a single dose
OR

Ciprofloxacin 500 mg orally twice a day for 3 days
OR

Erythromycin base 500 mg orally three times a day for 7 days

no

Hep B

- Prevalence india- 4-5%; USA<2%
- Screening ANC

- Modes of transmission
- In high prevalence countries: Vertical transmission accounts for upto 50% of all new cases…not india

Pregnancy outcome

- No effect on disease progression
- No increased risk of preterm labor/ IUGR

Vertical transmission

Transplacental- Rare

Intrapartum

Risk of transmission:10-20%

HBsAg and HBeAg positive- 90%

Prevention of transmission

- Passive and active immunization to new born: 90% protection
- Intrapartum precautions

- High HBV viral loads- 10^6 to 10^8 copies/ mL
- HBeAg positive
- Antiviral therapy- Tenofovir/telbivudine to mother

10%

Breast feeding

Hep C

- Transmission occurs via blood and body fluids, although sexual transmission is inefficient.
- Sero-prevalence India- 0.5-1.5%
- Screening- High risk women- pregnancy
- No effect on natural progression of disease

Prevention of transmission

- Intrapartum precautions
- No vaccine
- alpha interferon (standard and pegylated) , alone or in combination with ribavirin
- Registry..

Hep E and pregnancy

- Enterically transmitted RNA virus

  Developing countries:

- Maternal case-fatality rates: 21%
- Fetal case-fatality rates: 34%

- Fulminant hepatitis more common in pregnancy; altered innate immune response: macrophage function and toll-like receptor signaling

Treatment ; Vaccine

Bacterial vaginosis

- Incidence : 30%
- Effect on pregnancy:

  preterm birth, premature rupture of membranes, and low birth weight
- Screening and treating asymptomatic pregnant women not recommended
- Treatment of partner not beneficial
- Diagnosis: Amsel criteria :Nugent criteria

Recommended treatment

Metronidazole 250mg TDS/ 500mg BD 7d (cure rate:90%)

Clindamycin 300mg BD 7d

- Metronidazole gel 0.75%,5g intravaginally OD _5 d

Clindamycin cream 2%,5g intravaginally OD _7 d

Candida 25%

- Treatment for vaginal candidiasis

:topical imidazole 1% clotrimazole

:treatments for seven days rather than the shorter courses

Oral Fluconazole?

- Asymptomatic colonization requires no treatment

Trichomoniasis

20% prevalence

Associated with preterm delivery and low birth weight

Culture :diamond medium ; PCR

Metronidazole 2g single dose

Insufficient evidence to show that giving antibiotics prevents preterm birth