Worcestershire Acute Hospitals NHS Trust

Screening and Management of Syphilis in pregnancy

Key Document code:	WAHT-TP- 094	
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Approved by:	Maternity Governance Meeting	
Date of Approval:	15th November 2019	
Date of review:	15th November 2022	

Key Amendments

Date	Amendments	Approved by

Introduction

Note: This pathway has been reviewed in line with service specification no. 15 NHS Infectious Diseases Pregnancy Screening Programme.

Syphilis is an infection caused by the bacterium Treponema Pallidum. It is sexually transmitted and can also be transmitted vertically from mother to baby which can result in congenital Syphilis.

Acquired (sexually transmitted) syphilis is divided into stages:

Early infectious:

- Primary: 9-90 days after exposure. Painless chancre (ulcer), localised lymphadenopathy.
- Secondary: 6 weeks to 6 months after exposure. Skin rash, generalised lymphadenopathy, fever, condylomata lata (wart like lesions).
- Early Latent: up to 2 years from exposure.

Late non-infectious:

- Late Latent: more than 2 years after exposure.
- Tertiary: Gummata (especially skin and bone)
  Cardio vascular disease
  Neuro syphilis (central nervous system)

Syphilis in pregnancy:

Vertical transmission can occur at any stage.
75% infection risk if mother has active syphilis in pregnancy. **In addition maternal co-infection with HIV may increase risk of transmission.**

Risk of Mother to Infant transmission:

- During primary and secondary syphilis: 100%
- During 1st year: 80-90%
- During 1st 4 years: 70%
- After 4 years: transmission very rare.

Mortality (40%)

- Spontaneous abortion (infection<16 weeks is rare therefore early miscarriage unlikely due to syphilis)
- Stillbirth
- Neonatal death

Serious Morbidity

- Non-immune Hydrops

- Intrauterine growth restriction
- Serious sequelae in live born infected children

Guideline

Antenatal Care:

- All pregnant women will be offered screening in pregnancy for Syphilis as part of the Antenatal Booking bloods. The offer and acceptance/decline will be documented in the pregnancy hand held notes and the maternity information system (NSC leaflet 'Screening Tests for You and Your Baby' should be given at the point of offer).
- Any women who decline screening will be followed up by the Screening Coordinator.
- Those thought to be at risk of exposure should have bloods repeated.
- Late bookers and women who attend in labour for the first time should be offered microbiology screening as above.
- Positive results should be recorded in the Hand Held record with patient consent.
- All positive results are reported to the antenatal screening coordinator via email/telephone from Virology. A confirmation sample may be requested by lab if there are any uncertainties.
- All women with a positive result will be notified by the screening coordinator and a face-to-face appointment will be arranged to discuss the result and to make a plan of care within 10 working days. All women with a positive result will be referred to a Consultant Obstetrician and consent gained to share information with other relevant agencies.
- All women with a positive result will be referred by the Screening Coordinator to the Department of Genitourinary Medicine for consideration of treatment and contact tracing and screening for other sexually transmitted infections.
- Dose and type of treatment is detailed in Appendix 1. The treatment option to be given is decided after liaising with Genitourinary Physician/Infectious Diseases Consultant.
- Syphilis and concomitant HIV - Discuss with G.U./Infectious Disease Consultant.
- An Antenatal Paediatric Referral form will be completed at the Consultant appointment.
- GU Physicians to inform Obstetric and Paediatric teams as well as Antenatal screening coordinator of date of treatment and outcome of subsequent serological assessments.
- Maternal early Syphilis may be transmitted transplacentally at any stage of pregnancy and may result in polyhydramnios, miscarriage, pre-term labour, stillbirth, hydrops and congenital syphilis.
- 4 weekly serial ultrasound scans for fetal growth should be performed antenatally. Early referral for Fetal Medicine scans should be considered. Fetal arterial Doppler (middle cerebral artery Doppler) needs to be performed if there are signs of congenital syphilis (placentomegaly, hydrops).
- Women with positive syphilis serology who have had documented treatment for syphilis in the past do not necessarily need re-treatment if there is no clinical evidence of syphilis and the RPR is negative or low compared to previous results. However, it is important that re-infection be excluded. Opinion must be obtained from Genitourinary Physician/Infectious Diseases Consultant.
- Screen all intrauterine deaths/still births >20 weeks for syphilis by serum serology for TPHA.

Intrapartum Care:

The mode of delivery is unlikely to be affected by this diagnosis. Caesarean section is needed for other obstetric indications only.

Postnatal Care:

MOTHER

1. To continue with any further treatment and follow-up with the Department of Genitourinary medicine.

2. The woman may breastfeed her baby providing that usual hygiene measures are followed.

3. Ensure that the antibiotics that are prescribed are compatible with breastfeeding.

BABY

1. Paediatrician to be notified of baby's birth

2. Baby to be examined by Paediatrician for any clinical evidence of congenital syphilis.

3. With the parents' consent baby to have serological tests (not cord blood).

   If the baby's serum is negative on screening, and there are no signs of congenital infection, no further testing is necessary.

4. Positive results:
   a. Serological tests that detect IgG may be positive due to passive transfer of maternal antibodies whether or not the infant is infected (positive tests due to passively transferred antibody should be negative by 6 months).

   b. A positive anti-treponemal EIA IgM is consistent with a diagnosis of congenital infection.

   c. Always repeat positive results to confirm infection. If the first result is from the National Blood Service this will be repeated locally.

   d. Quantitative VDRL/RPR may be useful for diagnosis if the titre is more than two dilutions (fourfold increase) above the mother's titre ie useful to test infant blood in parallel with maternal serum..

   e. If the IgM test is negative, the other tests are reactive with titres less than four-fold higher than those of the mother and there are no signs of congenital syphilis, then repeat reactive tests at three, six and 12 months of age or until all tests become negative (usually by six months). Also repeat the IgM at three months in case the infant's response is delayed or suppressed.

5. If congenital syphilis is suspected then perform the following:
   a. Blood: Full Blood Count, liver function, electrolytes.

   b. Ophthalmic assessment as indicated

   c. Darkfield microscopy from early congenital syphilitic lesions or body fluids

   d. CSF: cells, protein, serological tests

   e. X-rays of long bones

6. If confirmed the baby will be treated: I.V. Benzyl penicillin 50mg/kg 12 hourly in the first 7 days of life and 8 hourly thereafter for 10 days The baby will need to have follow-up as minimum clinical and serological (VDRL or RPR) at 3 months, 6 months and 1 year.

7. For infants with suspected congenital syphilis and those born to mothers treated with a penicillin based regime less than 4 weeks prior to delivery or those treated with a non- penicillin regime or who have had inadequate treatment, treat infant with above mentioned regime.

Appendix 1

Treatment of Syphilis in Pregnancy

Early Syphilis in Pregnancy

1. Benzathine penicillin G 2.4 MU IM single dose in the first and second trimesters. When maternal treatment is initiated in the third trimester, a second dose of benzathine penicillin G 2.4MU IM should be given after one week (day 8). Monitoring for foetal distress especially in the early stages of therapy is recommended after 26 weeks of gestation. Advice given regarding monitoring of fetal movements, and for cardiotocogram (CTG) monitoring if there are reduced fetal movements or if the mother feels unwell.

1. Procaine penicillin G 600,000 unit IM daily x 10 days

Alternative regimes:

1. Amoxicillin 500mg PO QDS plus probenecid 500mg PO QDS x 14days
2. Ceftriaxone 500mg IM daily x 10 days
3. Erythromycin 500mg PO QDS x 14 days OR Azithromycin 500mg PO daily x 10 days *plus* evaluation and treatment of neonates at birth with penicillin

Late Syphilis in Pregnancy

1. Benzathine penicillin G 2.4 MU IM weekly for two weeks (three doses) Monitoring for foetal distress especially in the early stages of therapy is recommended after 26 weeks of gestation. Advice given regarding monitoring of fetal movements, and for cardiotocogram (CTG) monitoring if there are reduced fetal movements or if the mother feels unwell.

1. Procaine penicillin 600,000 units IM OD for 17 days

Alternative Regimen:
Amoxicillin 2g PO TDS plus probenecid 500mg QDS for 28 days.

- Patients should be warned of possible adverse effects to treatment including Jarisch-Herxheimer reaction.
- Both benzathine and procaine penicillin's G are unlicensed in the UK.
    - The prescriber will therefore take on extra responsibilities when prescribing these drugs.
    - The unlicensed status of the medicine should be explained to the patient.
    - The Trust policy relating to unlicensed medicines (see Medicines Policy) needs to be complied with.
    - The pharmacy needs to be contacted to organise supply.

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- Administering Benzathine penicillin intramuscularly can be very painful for patients; this may be substantially improved by using lignocaine as the diluent. (For protocol see BASHH 2008 Guidelines).

- Desensitisation to penicillin in those reporting allergies can be considered.