University Hospitals Plymouth NHS Trust

MATERNITY GUIDELINES

Herpes Guideline – combined Obstetric and Neonatal

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1. Genital Herpes Simplex Infection Aetiology and Transmission

Neonatal herpes is a very rare but serious systemic viral infection with high morbidity and mortality. It is rare in the UK, the incidence was 1.65 per 100 000 live births (1986-1991 data) but the rates have been rising.

There are 3 subgroups in the infant depending on site of infection:

1. Disease localised to skin, eye and/or mouth.
2. Local central nervous system (CNS) disease (encephalitis alone).
3. Disseminated infection with multi organ involvement.

Neonatal infection occurs as the result of an infection at the time of birth. In contrast, congenital infection is very rare and occurs by transfer of infection in utero.

It may be caused by herpes simplex virus type 1 or 2 (HSV-1 or HSV-2) as either viral type can cause genital herpes in the mother.

- 50% of neonatal herpes is due to HSV-1 and 50% due to HSV-2.
- 75% of neonatal herpes infections occur as a result of direct contact with infected maternal secretions.
- 25% of cases of postnatal transmission have been linked to other sources such as close relatives.
- Postnatal herpes may occur as a result of exposure to oro-labial herpes infection.

The risk of transmission is greatest when a woman acquires a **new infection (primary genital herpes)** within the last 6 weeks of pregnancy, so that the baby is delivered before the development of protective maternal antibodies and viral shedding may persist (see flow chart, appendix 1).

First episode genital herpes refers to a patient first noticing a herpetic ulcer. In these cases it is important to assume that this is primary genital herpes so that the woman receives the appropriate treatment and agrees an appropriate plan for delivery if it is indeed primary genital herpes. However, in up to 15% of cases where a woman presents with a 'first episode' of clinical HSV infection (ulceration), it will actually be a recurrent infection demonstrated by the presence of the same type-specific IgG antibody in the patient's serum.[1] **Recurrent genital herpes is associated with a very low risk of neonatal herpes.**

It is rare for transplacental intrauterine infection to occur and cause congenital herpes (skin, eye and CNS defects, FGR and fetal death). Disseminated herpes is more common in preterm infants.

2. Management of women presenting with a first episode of genital herpes during pregnancy (primary herpes)

(see appendix 1)

- For women who present with first episode genital ulceration a **referral to the GUM clinic (Sexual Health in Plymouth (SHiP))** should be made to perform viral PCR from lesion using UTM swab (red-top tube with pink liquid inside) and serum type specific HSV IgG antibody test (gold top blood bottle) and screen for other STI. At the same time the woman should also be referred for **Consultant-led care** and ideally be reviewed and counselled about treatment and delivery options.
- First or second trimester acquisition:
  - Do not delay treatment. Initiate aciclovir 400mg TDS PO for 5 days (IV for disseminated HSV).
  - Aciclovir is unlicensed but considered safe. Aciclovir has been used extensively in pregnancy, is well tolerated and there is no evidence of maternal or fetal toxicity. If not able to administer aciclovir, liaise with microbiology or SHiP immediately.
  - Paracetamol and topical lidocaine 2% gel can be used.
  - Daily suppressive aciclovir 400mg TDS can be given from 36/40 to reduce HSV lesions at term and reduce asymptomatic viral shedding.
- For women presenting with first episode genital ulceration in the third trimester (from 28/40) a referral to SHiP should be made.
  - Do not delay treatment (as above) but usually continue the suppression treatment until delivery.
- **Caesarean section** is recommended for all women presenting with first-episode genital herpes lesions in the **third trimester** particularly those developing symptoms within six weeks of expected delivery as the risk of transmission is very high at 41%.
- Caesarean section is *not indicated* for women who develop first lesions during first or second trimester or in women who present with a first episode of genital ulceration but whose serology shows presence of HSV antibodies of the *same* type (HSV-1 or HSV-2) as isolated on the lesional swabs. It should be noted, however, that it may take 2-3 weeks for microbiology and serology tests to be available and an initial plan for delivery should be based on the assumption that all first episodes of genital ulceration are primary HSV infection.
- Women who have first-episodes genital herpes in the third trimester and who opt for vaginal birth should be given intrapartum IV aciclovir and subsequently the neonate should also receive IV aciclovir.
- Invasive procedures such as fetal scalp electrode monitoring, fetal blood sampling and instrumental deliveries should be avoided.

3. Management of women presenting with a recurrent episode of genital herpes

- A recurrent episode of genital herpes occurring at any time during pregnancy and labour is *not* an indication for delivery by Caesarean section.
- Advise the woman that the risk of neonatal herpes is low (0-3% for vaginal delivery).
- Consider suppression treatment from 36/40 as above.

4. Management of women with primary or recurrent genital lesions at the onset of labour

- Clinical history and assessment is needed.
- Viral swabs are to be taken from lesions using UTM swab (red-top tube with pink-liquid inside).
- Neonatology must be informed.
- Standard isolation precautions must be taken.

4.1. Primary episode

- Caesarean section is recommended to all women with primary episode of genital herpes lesions at time of delivery, or within 6 weeks of the expected date of delivery.
- IV aciclovir intrapartum to the mother (5mg/kg every 8 hours) and subsequently to the neonate (IV aciclovir 20mg/kg every 8 hours) may be given if the woman opts for vaginal delivery.
- If primary herpes is suspected and vaginal delivery occurs, the risk of neonatal herpes is 41%. ARM, FSE, fetal blood sampling and instrumental delivery are all to be avoided.

4.2. Recurrent genital herpes

- The risk of vaginal delivery transmission is low (0-3%).
- The woman should be counselled regarding vaginal birth and Caesarean to aid joint decision making.
- ARM, FSE, fetal blood sampling and instrumental delivery may be used if required.

5.Genital herpes infection and PPROM (preterm pre-labour rupture of membranes before 37+0)

- When a woman presents with primary genital herpes and PPROM there should be an MDT discussion involving Consultant Obstetricians, Neonatologists and Genitourinary Physicians and the management will depend on the gestation that PPROM occurred.

- If immediate delivery is indicated then the anticipated benefits of Caesarean section remain.
- If immediate delivery is not indicated then the mother should be recommended to receive intravenous aciclovir 5mg/kg every 8 hours.
- In all cases the use of prophylactic corticosteroids should be considered to reduce the implications of preterm delivery on the infant.
- If delivering within 6 weeks of the primary infection despite initial conservative management, delivery by caesarean section may still offer some benefit even in the context of PPROM.
- If PPROM occurs in the presence of recurrent genital herpes lesions, the risk of neonatal transmission is very small.
- In the case of PPROM <34/40 expectant management is appropriate including aciclovir 400mg TDS PO indefinitely.
- If >34/40, consider delivery.

6.Management of HIV-positive women with HSV infection

6.1. Primary episode

- HIV-positive women with primary HSV infection in the last trimester of pregnancy can be managed in the same way as all other women in accordance with the recommendations above for primary genital HSV infection.

6.1. Management of HIV-positive women with recurrent HSV infection

- There is evidence that ulceration due to genital herpes increases the risk of transmission of HIV to the fetus.
- All HIV positive women with a history of genital herpes ulceration should be recommended to receive oral aciclovir 400mg TDS from 32 weeks gestation to reduce the chance of developing genital ulcers which pose an increased risk of transmission of HIV. This treatment with oral aciclovir is especially important in women who are planning to deliver vaginally.
- Mode of delivery for women with recurrent HSV infection should be in line with the BHIVA (British HIV Association) HIV in Pregnancy guideline recommendations.
- There is currently no evidence to recommend the use of oral aciclovir for HIV positive women who are also HSV-1 or HSV-2 seropositive but who have no history of genital ulceration.

7. Prevention of postnatal HSV transmission to the neonate

In 25% of cases a possible source of postnatal infection is responsible, usually a close relative of the mother. HCW (Healthcare Workers) and family members with herpetic lesions should practice careful hand hygiene. Those with oral herpetic lesions (cold sores) should not kiss the neonate.

8. Management of the Neonate

Neonatal HSV has 3 clinical patterns that can overlap with each other:

1. **SEM** – localized infection to skin, eye or mouth,
2. **CNS** – localized infection to the CNS which has risk of significant neurological morbidity.
3. **Disseminated** – multi-organ involvement, very poor prognosis, attributed to delays between onset and treatment and almost exclusively seen when the mother has a primary HSV infection.

If you suspect an infant of showing symptoms of HSV infection regardless of maternal risk factors you should commence antivirals (IV aciclovir 20mg/kg 8 hourly) and take swabs (skin, conjunctiva, oropharynx, rectum for HSV PCR). If there are any CNS signs then lumbar puncture is indicated for CSF HSV PCR.

8.1 Neonates at high risk of vertical transmission

The risk of vertical transmission is up to 41% in a vaginal delivery in mothers with a primary HSV infection in the 6 weeks preceding delivery (i.e. before sero-conversion has taken place). This risk is almost completely avoided if the woman has a caesarean section delivery.

If an infant is at high risk of vertical transmission as outlined above:

- swab skin, conjunctiva, oropharynx, rectum for HSV PCR.
    - the viral swab used in this trust is the UTM swab (red-top tube with pink liquid inside).
- start treatment of IV aciclovir (20mg/kg every 8 hours) until active infection ruled out.
- standard isolation precautions should be taken.
- very low threshold for lumbar puncture for HSV PCR (i.e. clinically unwell – raised temperature, tachycardic, increased work of breathing – and/or skin lesions including in the absence of CNS symptoms).

8.2 Neonates at low risk of vertical transmission

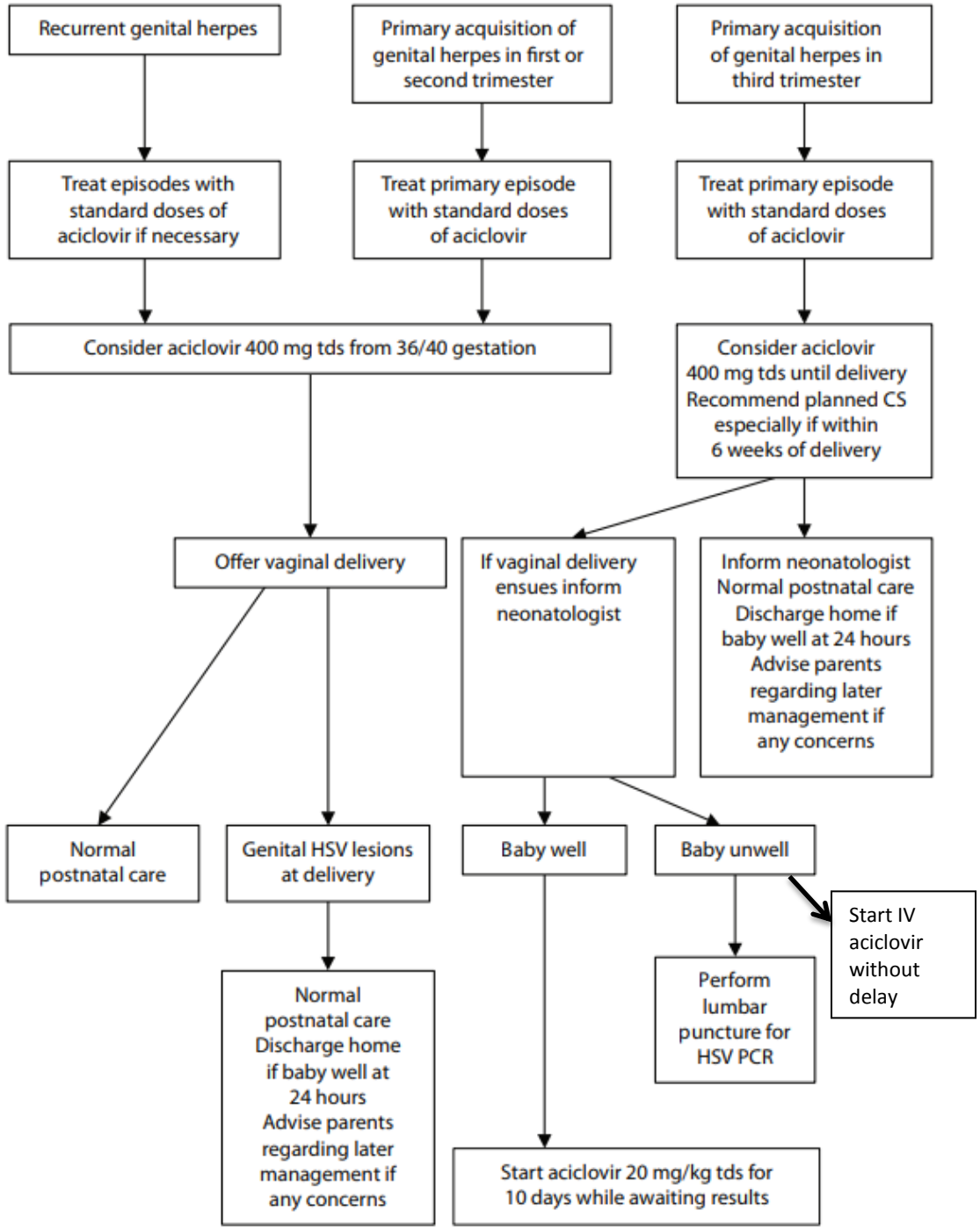
- Mothers with recurrent HSV infection, whether they have active lesions or not.
- Caesarean section deliveries in mothers with primary HSV within the 6 weeks preceding delivery.
- **In the cases of low risk deliveries, the infant needs routine postnatal care, discharge home at 24 hours if no concerns and advise parents regarding later management if any concerns.**

9. Record keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG.
All entries must have the **date and time** together with **signature and printed name.**

Appendix 1

Algorithm for the management of herpes in pregnancy and care of neonate



Abbreviations – CS caesarean section; HSV herpes simplex virus; PCR polymerase chain reaction; tds three times daily

Monitoring and Audit

Auditable Standards:
Please refer to audit tool, location: 'Maternity on cl2-file11', Guidelines

Reports to:
Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations from audit

Clinical Governance & Risk Management Committee

Frequency of audit:
Annual

Responsible person:
Member of maternity audit team

Cross references

Guidelines and Standard Operating Procedures can now be found on the network share (drive) 'G:\DocumentLibrary'.

Maternity hand held notes, hospital records and record keeping

Guideline development within the maternity services

Sepsis, infection and prophylaxis in obstetric patients

Guidelines for the management of the infected patient policy

References

Joint BASHH and RCOG "Management of Genital Herpes in Pregnancy" October 2014

Author	Guideline Committee – Mr A Taylor		
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