Genital herpes in pregnancy

This document should be read in conjunction with the main, separate Genital Herpes Simplex article.

Aetiology, epidemiology, transmission, presentation, complications and differential diagnosis of infection with herpes simplex virus (HSV) are dealt with in the main article and will not be discussed here. This article concentrates on the management issues specific to genital herpes infection during pregnancy.

Although rare in the UK, neonatal herpes is a severe condition and carries a high risk of morbidity and mortality.[1] Neonatal herpes refers to infection acquired around the time of birth, whereas congenital herpes refers to infection acquired in utero and is extremely rare.

If a mother acquires HSV infection near term, the risk of transmission to the neonate is highest - around 30-50%.[2] Women who acquire HSV in the second half of pregnancy should be managed in conjunction with maternal-fetal medicine and infectious disease or genito-urinary medicine specialists.

Treatment of genital herpes simplex virus in pregnancy

The most recent UK guideline is the 2014 British Association for Sexual Health and HIV (BASHH) and Royal College of Obstetricians and Gynaecologists (RCOG).[3] Advice in this article is based on this UK guideline.

When seeing a pregnant woman with genital herpes, important questions to ask are:

- Is this a first episode (primary infection) or a recurrence? This may be difficult to distinguish and serology may be helpful, particularly in the third trimester where it will significantly alter management.

- What trimester of pregnancy is the woman in?

The obstetric team should always be informed when a pregnant woman with suspected genital presents for care, and two men having midwifery-led care should be reviewed by an obstetrician.

Management of a first episode of genital herpes[3]

First-trimester and second-trimester presentation

There is no evidence that genital HSV infection occurring during early pregnancy is associated with an increased risk of spontaneous abortion or congenital abnormalities. Diagnosis and treatment are important to reduce symptoms, reduce viral shedding and to reduce the risk of recurrence or asymptomatic viral shedding around the time of delivery. The affected woman should be referred to a genitourinary medicine (GUM) clinic for confirmation of the diagnosis, treatment and screening for other sexually transmitted infections (STIs). If this cannot be arranged immediately, treatment should be commenced in primary care.

Aciclovir is not licensed for use in pregnancy but is not known to be harmful and should be first-line treatment.[4] There is no evidence of an increased incidence of birth defects with either aciclovir or other standard antivirals.[5] However, there is more experience with aciclovir, hence it is considered first-line treatment.[1]

The dose used is the same as for non-pregnant women, so the standard regime is aciclovir 400 mg three times a day for five days.

Symptomatic relief in the form of paracetamol and/or lidocaine 5% gel may be suggested.

Where a woman has acquired a first genital herpes infection in the first or second trimester, she should then take a suppressive dose of aciclovir 400 mg three times a day from 36 weeks of gestation. This has been shown to prevent or delay up to 80% of recurrences at term and the need for caesarean section.[6] Assuming there are no active lesions or symptoms at term, normal vaginal delivery should be planned unless there are other factors preventing this.

The same points regarding counselling and contact tracing, as listed in the separate Genital Herpes Simplex article, should also be covered as part of standard management.

Third-trimester presentation

Refer, diagnose and treat as for first trimester, then continue suppressive aciclovir therapy. In addition:

- This scenario (with first presentation late in the pregnancy) carries the greatest risk of neonatal infection. Recurrent episodes have a much lower transmission risk.[7]
- A caesarean section (whilst the membranes are still intact) is recommended for women who develop primary genital herpes in the third trimester, particularly within six weeks of delivery. Around 70% of neonatal infections result from asymptomatic HSV shedding during delivery.[8]
- Serology (HSV antibody testing) can be useful, to help distinguish primary and secondary infection and to type the virus.[6] Up to 15% of women presenting for the first time will have serological evidence of prior infection. Because the risk in recurrent infection is so much lower and does not necessarily involve caesarean section, it is important to establish this where possible. Type-specific antibodies to the same type of virus isolated from active lesions would be suggestive of recurrent infection. However it is safest to assume a primary infection until proven otherwise as this result may take some time.
- Inform the paediatrician.

Active HSV at the time of labour

- Caesarean section is recommended. This reduces risk but does not prevent it completely.
- Where vaginal delivery occurs:
    - Consider intravenous aciclovir for both mother and neonate.
    - Invasive procedures (fetal scalp monitoring, artificial rupture of membranes and instrumental delivery) should be avoided where possible as this is thought to increase risk of transmission.
    - The neonate should be treated with intravenous aciclovir and swabs should be taken from the eyes, skin, oropharynx and rectum.

Treatment of recurrent infection[3]

- Confirm the diagnosis.
- There is no evidence that there is any increased risk of premature labour or intrauterine growth restriction for women seropositive for HSV.
- If the woman has a history of recurrent genital herpes, she should be reassured that the risk of transmitting the infection to her baby is very small, even if she does have active lesions at delivery. The risk is approximately 0-3% for vaginal delivery.
- Maternal antibodies will give some protection to the baby but neonatal infection can still occasionally occur.
- Antiviral treatment is not usually indicated before 36 weeks of gestation. Although antivirals are believed to be safe in pregnancy, the risk:benefit balance changes for recurrent infection because episodes are usually shorter and self-limiting. Saline bathing and oral paracetamol are usually sufficient to control symptoms.
- Consider suppressive treatment with aciclovir 400 mg three times daily from 36 weeks of gestation. (Three times a day as opposed to the usual twice daily suppressive dose is considered necessary because of the altered pharmacokinetics of the drug in late pregnancy.)
- Aim for vaginal delivery in the absence of other obstetric contra-indications. Caesarean section is not routinely recommended for women with recurrent genital herpes lesions at the onset of labour.
- If vaginal delivery did take place and there were HSV lesions present, the GP and community midwife should be informed so that they can monitor for signs of neonatal HSV.

Active lesions during labour

- Caesarean section is not routinely recommended for women with recurrent genital herpes lesions at the onset of labour. The mode of delivery should be discussed with the woman and individualised according to the clinical circumstances and the woman's preferences after a full discussion of the risks and benefits of each option.

- The increased risk associated with invasive procedures is considered negligible, so these may be used if need be.
- The paediatrician should be informed and parents educated about hygiene and symptoms to look out for. No swabs or treatment are required unless the baby becomes unwell.

Neonatal herpes simplex viral infection[7]

The main concern with maternal HSV infection during pregnancy is the risk of neonatal infection, as this can lead to severe neurological impairment and to death.

It is most likely to occur if the mother develops HSV for the first time during the final trimester. If this is the case, the baby is likely to be delivered before the development of protective maternal antibodies. HSV-2 neonatal infection (which is associated with CNS or disseminated disease) has a worse prognosis than HSV-1 (which is most common in skin-eye-mouth disease). Prognosis has improved significantly with current management strategies but it still has a mortality of around 48% for neonates with disseminated disease.[9]

Early diagnosis and prompt treatment are essential. Early recognition (and application of treatment protocols) is essential to improve prognosis. Remember there may not be obvious symptoms in the mother and HSV can be transmitted through asymptomatic viral shedding, and indeed this is most often the case.[10] Consider the diagnosis in any infant in the first weeks of life who develops vesicles, seizures or sepsis.

Clinical features

- These appear in the neonate two days to six weeks after delivery.
- Many infected infants present with nonspecific signs and without mucocutaneous involvement.
- There is rarely a history of maternal infection.

- The infection may follow different clinical courses:
    - Localised infection - skin, eyes or mouth (SEM). This is the most common presentation and occurs in about 45% of cases.[11] The vesicles are often at the presenting part or at sites of minor trauma, such as a scalp electrode.
    - Localised infections may progress to CNS or disseminated infection if not treated with intravenous aciclovir.
    - CNS infection, with or without skin, eye or mouth involvement, occurs in around 30% of infected infants and presents with lethargy, feeding difficulty and seizures.[12]
    - Disseminated infection (which can cause jaundice, hepatosplenomegaly and disseminated intravascular coagulation) is much less common in recent years.
- Congenital HSV infection:[13]
    - This is rare, but is more likely in mothers who have disseminated herpes infection. Intrauterine transmission is greatest during the first half of pregnancy. Most congenital herpes infections are due to HSV-2.
    - Congenital HSV can cause miscarriage, stillbirth, microcephaly, hydrocephalus, chorioretinitis and vesicular skin lesions.
    - If lesions appear within 48 hours of birth, congenital infection is the cause.
    - There is a high perinatal mortality associated with disseminated disease(50%).

Treatment of a baby considered to be at risk of neonatal herpes

- Prompt diagnosis and initiation of treatment are critical to neonatal outcome.
- Take urine and stool cultures and swabs from the oropharynx, eyes and surface sites for viral culture and typing.

- Intravenous aciclovir is given by many whilst waiting for the results and is the treatment of choice in confirmed infection.
- The child should be isolated.
- Breast-feeding is recommended unless the mother has herpetic lesions around the nipples. Aciclovir is excreted in breast milk but there is no evidence of harm.
- Parents should be warned to report any early signs of infection such as poor feeding, lethargy, fever or any suspicious lesions.

Prevention of acquisition of herpes simplex virus for the mother and neonate[3] [14]

- All women should be asked at antenatal booking if they have ever had, or their partner has ever had, genital herpes.
- Early notification of HSV infection to the obstetric and paediatric team enables appropriate management.
- If the male partner has a history of genital HSV and the female is asymptomatic, the couple should be advised of the importance of not transmitting the infection in pregnancy. Specific advice includes:
    - Condom use throughout pregnancy may help to reduce the risk of HSV infection
    - Not to have sex during a recurrence, and in the last six weeks of pregnancy.
    - The risk of HSV-1 infection during orogenital contact should be discussed and contact avoided if there are oral lesions evident.
    - Avoid multiple sexual partners during pregnancy.
- All women should have careful vulval inspection at the onset of labour to look for HSV lesions.
- In about a quarter of cases, infection is acquired postnatally from somebody other than the mother. Staff or relatives with an active oral HSV lesion or herpetic whitlow, who come into contact with the neonate, should be advised about the risk of postnatal transmission and avoid direct contact between the lesion and the neonate.

There is no vaccine available currently. [15]

Further reading

- Herpes Viruses Association

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