transmission cannot be completely prevented. Therefore, routine care of women in the reproductive age group should include contraception to prevent unplanned pregnancies, as well as voluntary counselling and testing before planning a pregnancy.

References available on request.

SYPHILIS IN PREGNANCY

N R MAHARAJ, FCOG (SA)
Consultant: Department of Obstetrics and Gynaecology, Nelson R Mandela School of Medicine, University of KwaZulu-Natal, Durban

Aetiology and epidemiology
Syphilis, a chronic systemic infection, is predominantly sexually transmitted and caused by the spirochaete Treponema pallidum. Prevalence rates in women exceed 10% in parts of sub-Saharan Africa. Locally, an incidence of 20% in antenatal patients attending Pelonomi Hospital, Bloemfontein, was found.

A study of antenatal patients at King Edward VIII Hospital, Durban, showed a prevalence of active syphilis of 7.4%. T. pallidum is morphologically and serologically indistinguishable from other human pathogenic treponemes, T. pertenue, T. endemicum and T. carateum, the causative agents, respectively, of yaws, bejel and pinta. Pregnancy is a critical time to detect and treat syphilis, not only to protect the mother and her partner from its complications, but to prevent the extensive pathological changes that characterise congenital syphilis, and the high perinatal mortality associated with it. Fortunately, of the many congenital infections, syphilis is not only the most readily prevented, it is also the most susceptible to therapy.

Clinical features in the mother
Clinical features of primary syphilis are infrequently seen in pregnancy because the primary chancre, the majority of which occur on the genitalia, may be small and undetectable, modified by treatment or occur on the cervix. Rarely, the lesion is a florid destructive ulcer of the vulva. While the classic description is that of a single, painless, well-defined ulcer that exudes clear serum, multiple lesions may occur and appear as ‘kissing chancres’ on contiguous surfaces. The lesions may become painful as a result of secondary bacterial infection or co-infection with herpes or chancroid. Inguinal lymphadenopathy, usually discrete, painless and rubbery, may be associated with lesions on the external genitalia and lower third of the vagina. The primary chancres occurs from 9 - 90 days (average 2 - 4 weeks) after the initial contact with the infected person. The primary lesion heals spontaneously in 2 - 6 weeks, leaving a thin atrophic scar or no scar at all. A latent phase lasting for 2 weeks to 6 months may follow.

The lesions seen most commonly in secondary syphilis in pregnancy are condylomata lata which usually occur in the vulval and perianal region and inner thighs. Constitutional symptoms like headache, mild pyrexia, malaise and loss of appetite are usually slight and often unrecognised. Lesions in the throat and larynx may give rise to a sore throat or hoarseness, respectively. Other signs of secondary syphilis are variable and include polymorphous skin eruptions, generalised lymphadenopathy and mouth ulceration.

Early latent syphilis is the stage immediately after spontaneous resolution of the secondary lesions.

Late latent and tertiary syphilis is non-contagious and not associated with a spirochaetaemia, so is unlikely to affect the fetus. However, if serological tests are positive, then the patient must be treated, whatever the stage.

Fetal effects
The fetus may suffer from several complications, viz. abortion, intrauterine death, intrauterine growth retardation or congenital infection. Babies born to mothers with the active stage of disease are at much higher risk of developing the disease. An infant born alive with congenital infection may present with the following features: jaundice, anaemia, hepatosplenomegaly, growth retardation and nasal discharge. A variety of skin lesions (e.g. bullous eruptions) may occur and are particularly located around the mouth, nose and anus. Pseudo-paralysis may also appear at birth. The syphilitic placenta appears pale and boggy with a pale yellow maternal surface and friable, greasy cotyledons.

Diagnosis
Screening for syphilis in pregnancy should be a routine antenatal investigation and it is recommended that a repeat investigation be done at 36 weeks of gestation. Serological tests fall into 2 groups — nonspecific and specific tests.

Nonspecific tests
These react to cardiolipins contained in the Treponema. They become positive after 10 - 30 days of the initial infection and usually become negative after successful treatment. Common tests include:

- Wassermann reaction (WR)
- Venereal Disease Research Laboratory (VDRL) slide test
- rapid plasma reagin card test.

False positives may be seen with allergies, malaria, tuberculosis, glandular fever, systemic lupus erythematosus, cirrhosis, etc.

Specific tests
These depend on the detection of specific antibodies to pathogenic Treponema. The most commonly used are:

- Treponema pallidum haemagglutination test (TPHA)
- fluorescent treponemal antibody test (FTA).

These two tests are specific for T. pallidum and become positive some 2 weeks after the initial infection. They remain positive once the patient has had the disease.

Treatment
It has been suggested that all women with a positive rapid plasma reagin test be treated. Penicillin is the treatment of choice. Cronjé gives a detailed treatment regimen. Cronjé HS. Obstetrics in Southern Africa.
10 - 15 days. If cerebrospinal fluid is abnormal, the child should be admitted and treated for 10 days or a single dose of benzathine penicillin. If the cerebrospinal fluid is abnormal, the child should be admitted and treated for 10 - 15 days.

**Follow-up and prevention**

Patients should be counselled and sexual intercourse should be avoided until treatment is completed. Screening for other STDs should be offered. If treatment was successful, titres begin to fall by the end of the third month and non-treponemal tests become negative at the end of 1 year. In the event of clinical or serological relapse or seroresistance, retreatment is essential.

Avoidance of high-risk behaviour and the use of condoms are the principal measures of prevention. Wherever possible, the consorts of the infected woman should be found and treated. If the latter is used, the baby should be admitted and treated for 10 - 15 days.

**Antenatal care** is the mainstay of health care for pregnant women.

**Purpose**

Its purpose is to maintain the best possible state of health of mother and fetus by screening for actual and potential problems as early as possible and by instituting appropriate referral or management. It is also essential that those involved in antenatal care ensure that advice is made available to the woman and her partner.

**Responsibility**

In most poor countries, antenatal care is provided in the public sector by community clinics and hospitals. Despite this, the GP is often the first provider of antenatal care. Large numbers of women, particularly in South Africa, consult a GP to confirm pregnancy, labour and the puerperium. The GP, therefore, has the responsibility to discuss with women the choices of care available, the place of birth and the pattern of antenatal supervision. Antenatal care may be shared between the GP and specialist and/or public sector facility. Even if the GP does not provide routine antenatal services, he/she must take the window of opportunity to fulfil the components of the basic standard of antenatal care, particularly as most women in poor countries attend a doctor for the first time when they are pregnant.

**Components of basic antenatal care**

The undernoted should be regarded as a basic standard of care and the GP should initially provide advice and information, do a general examination and initiate routine screening tests:

- Early clinical assessment of the mother and identification of risk factors.
- Confirmation of pregnancy by history, examination and urine test, if appropriate.
- Ultrasound, if available, for assessing gestational age, excluding gross fetal abnormalities and multiple pregnancies.
- Counselling and screening for detectable congenital abnormalities.
- Regular visits shared between health professionals. In most cases in South Africa, deliveries occur in hospitals. The GP may be able to check on blood pressure values regularly, do urine tests for proteinuria and glycosuria, and follow up the mother and baby in the puerperium.
- Regular examination to detect impaired fetal growth and obstetric and medical disorders.
- An active health education programme and advice on a healthy lifestyle.

The GP might not be able to do all of the above, but should take the opportunity to assess and perform the following investigations:

**Blood pressure** should be measured and should be below 140/90 mmHg.

**Urine** should be tested for protein and sugar. Glycosuria is common, but if persistent or recurrent a glucose tolerance test should be performed. When protein is detected, contamination and infection should be excluded.

**Haemoglobin.** The haemoglobin level should be estimated at the first visit and again between 30 and 34 weeks. Levels below 10 g/dl are indicative of anaemia, regardless of gestation.

**Rhesus testing.** Rhesus-negative women are identified at the booking visit. If the rhesus test is negative, rhesus antibody testing must be done.

**Syphilis testing.** A rapid plasma reagin is the standard screening test,