Diagnosis and Treatment Regimes for Syphilis  By Dr John Bannister

Syphilis: Management and Treatment

Management

The treatment of infectious syphilis and management of sexual contacts can be quite involved. In most instances it is probably best managed at an Infectious Diseases or Sexual Health department. If a GP has experience with syphilis and wishes to manage a case of syphilis it is still prudent to discuss the case with a Sexual Health or Infectious Diseases physician.

- Infectious syphilis is best managed by, or in consultation with, an Infectious Diseases or Sexual Health physician.

Abnormal treponemal serology found as part of an immigration medical needs to be assessed by a sexual health or an infectious diseases specialist.

Treatment

The following recommendations are based on guidelines from the Centre for Disease Control (CDC) http://www.cdc.gov/STD/treatment/2010/default.htm (1) and British Association for Sexual Health and HIV guidelines (see recommended pre-reading for this quiz).

Syphilis serology interpretation can at times be complex and leave one without a clear answer. In this case it is always better to over treat than under treat.

It needs to be stressed that the long acting penicillin, benzathine penicillin, is the mainstay of treatment. Since it was first used in 1943 (2) penicillin in various forms
has been used extensively and is known to be effective. Other antibiotics have not been used to the same extent.

**There are two main scenarios to consider: is the syphilis early or late?**

*Early syphilis* requires one treatment with 1.8g of benzathine penicillin. The formulation only comes in 900mg doses so two injections of 900mg, one into each buttock, are given by deep intramuscular injection. A patient who is allergic to penicillin can be given doxycycline 100mg twice daily (bd) for two weeks.

For *late syphilis* three treatments are required. Each treatment is 1.8g of benzathine penicillin and each treatment needs to be one week apart. A patient who is allergic to penicillin can be given doxycycline 100mg bd for one month.

Syphilis of unknown duration should have a treatment regime the same as late syphilis: it is better to over treat than under treat.

When uncertainty exists about the adequacy of a patient’s treatment in the past, it is better to treat reactive treponemal serology than not treat.

Before giving any treatment for syphilis it is important to forewarn the patient about the possibility of a significant, if temporary, ‘flu like reaction to treatment. This is called the Jarisch – Herxheimer (JH) reaction. As the penicillin kills the treponemes there is an acute inflammatory response which may result in fevers, chills, headaches, arthralgia and myalgia. This reaction occurs four to six hours after treatment and subsides within 24 hours. In secondary syphilis a JH reaction may occur in two thirds of patients and in primary syphilis in one third of patients. The patient is treated symptomatically. The reaction is not related to the type of antibiotic used and should not be confused with a penicillin “allergy” (3).

In addition, always get a baseline test **on the day of treatment**. The following example illustrates why:

A patient has an RPR test two weeks before treatment and the result is 1:16. On the day of treatment, however, the RPR may in fact be much higher, for example 1:32.

Suppose then in three months time the RPR is 1:8. A cure requires the RPR to drop fourfold. If you knew his RPR on the day of treatment was 1:32 then you can be confident the patient is cured. If the patient’s last RPR before treatment was 1:16 you will be unaware of this.
For the treatment of syphilis during pregnancy, no proven alternatives to penicillin exist. For this reason pregnant women with a history of penicillin allergy should be desensitised and treated with penicillin. Early syphilis in pregnancy has a very high rate of transmission to the fetus and there is a significant risk of transmission even in late syphilis (4).

The UK Guidelines note that “Management should be in close liaison between obstetric, midwifery and paediatric colleagues”

- Benzathine penicillin, a long acting form of penicillin, is the drug of choice to treat syphilis.

**Syphilis and HIV Infection**

80% of the infectious syphilis cases in NZ in 2011 were in MSM and 19% of cases were in HIV positive people (5).

Although there has been substantial debate about the possibility of an altered natural history in HIV positive patients (and therefore a need for an altered treatment regime) (6), the CDC guidelines (1), UK guidelines (see pre-reading) and the Australasian Society for HIV Medicine (ASHM) guidelines (http://www.ashm.org.au/) recommend that the management of all aspects of syphilis in HIV positive patients is identical to the management of HIV negative patients.

**Management of the Patient’s Sexual Contacts**

If a GP has an interest in treating a patient with syphilis it is important to have a plan for managing the sexual partners of the patient. The following recommendations are those of the Auckland Sexual Health Service which in turn have been based upon guidelines the CDC and the UK guidelines.

Once again the division between late and early syphilis is important. Remember that disease less than two years old is deemed to be infectious. Remember too that it is possible for a sexual partner to not show serological evidence of infection for up to
three months after sexual contact: therefore treatment guidelines recommend that any sexual contact within the previous three months is treated presumptively.

Thus contacts within 90 days should be tested and treated presumptively with 1.8g IM of benzathine penicillin. Alternative treatments are best used only in the case of a genuine penicillin allergy. These alternatives are doxycycline 100mg orally bd for 14 days or azithromycin 1g orally.

If the patient has secondary syphilis – i.e. early disease with a rash or systemic symptoms– any sexual contact within three months should be treated presumptively.

All contacts within the past six months should be serologically evaluated. If the patient has latent disease but it is less than two years old or the disease is of unknown duration then this person is still deemed to be infectious and sexual contacts within the last three months are to be tested and treated presumptively. In this case all sexual partners of the past year are to be tested.

**Follow-up Serology of Patient**

The person treated for early syphilis has to have their serology monitored to check for evidence of cure. As stated previously, this is defined as a four fold drop in the RPR (e.g. a drop in the RPR from 1:32 to 1:8). The Auckland Sexual Health Service recommends a follow up test at three, six and twelve months. This protocol is based on guidelines from the CDC and UK guidelines.

If the RPR does not drop by four fold at 12 months the person needs to be evaluated to see if they could have neurosyphilis or could have been reinfected. With late disease the RPR will already be low or negative and no change in the RPR result will be expected. After treatment for late syphilis ASHS guidelines recommend a follow up treponemal test six months later.

- The management of syphilis involves the treatment of the patient, follow up serology of patient and assessment of the patient’s sexual partners.
References


