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A 21-Year-Old Pregnant Woman from The Gambia With a Rash

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Clinical Presentation

History

A 21-year-old woman comes to your clinic in The Gambia complaining of a generalized, non-itchy rash that she has had for 5 days. She is otherwise well and has no significant past medical history. She is 32 weeks pregnant. This is her first pregnancy.

Clinical Findings

She has a generalized rash (Fig. 56.1). Her mouth is normal, and there is no lymphadenopathy. She is not anaemic or jaundiced, and general examination is unremarkable.

Questions

1. What is the most likely diagnosis, and how might this affect the outcome of her pregnancy?
2. How would you manage the patient?

Discussion

A 21-year-old pregnant Gambian woman presents because of a generalized macular rash involving the palms of both hands. The rash is non-itchy and she is otherwise fine.

Answer to Question 1

What is the Most Likely Diagnosis, and How Might This Affect the Outcome of Her Pregnancy?

A generalized, non-itchy rash affecting the palms of the hands is syphilis until proven otherwise. Syphilis in pregnancy has a serious influence on pregnancy outcome. A study in Tanzania showed that, among women with latent syphilis and a rapid plasma reagin (RPR) titre of $\geq 1:8$, 25% delivered a stillborn baby, and 33% a low-birth-weight baby.

The baby may be born with signs of congenital syphilis, including a generalized bullous rash, jaundice and hepatosplenomegaly. In this case the prognosis is bad, with a 50%

case fatality rate even with treatment. Alternatively, the baby may appear normal at birth, and present at the age of 3 to 4 months with failure to thrive and signs of congenital syphilis, usually including a generalized rash which affects the palms of the hands and soles of the feet (Fig. 56.2). Other common signs include hepatosplenomegaly, painful periostitis involving the long bones, and a persistent nasal discharge, which may be bloodstained (the 'syphilitic snuffles').

Answer to Question 2

How Would You Manage the Patient?

Intramuscular benzathine penicillin is the treatment of choice for syphilis. A single dose of 2.4 million units i.m. is recommended for primary, secondary and early latent syphilis (of less than two years' duration). A single dose, given before 28 weeks' gestation, has been shown to prevent adverse outcomes resulting from syphilis. Because this patient has not been treated before 28 weeks, her infant should receive a course of treatment for congenital syphilis (IM procaine penicillin 50 000 units/kg daily for 10–14 days)



• **Fig. 56.1** Generalized, non-itchy macular rash in a pregnant Gambian woman.



• **Fig. 56.2** Congenital syphilis in a 3-month-old infant: desquamating lesion of the palms.

The Case Continued...

The patient was treated with a single IM dose of benzathine penicillin and she made an uneventful recovery. She delivered a normal infant at term.

SUMMARY BOX

Syphilis in Pregnancy

Primary syphilis causes an ulcer or chancre, at the site of inoculation, which is usually painless. Women are often unaware of the lesion, because it may be on the cervix or vaginal wall. The secondary stage usually occurs 6 to 8 weeks later, causing a generalized rash that often affects the palms of the hands, and usually does not itch. There may be other manifestations, including jaundice or ocular involvement (uveitis). The clinical signs resolve over a few weeks in the absence of treatment, after which the patient enters the latent stage. A small minority develop tertiary lesions involving the cardiovascular or nervous system many years later. Progression may be more rapid in HIV-positive patients. Women with secondary syphilis, who have a

disseminated infection, are most likely to infect their foetus, but the infection can cross the placenta in pregnant women with latent syphilis.

According to current WHO estimates, syphilis in pregnancy causes 355,000 adverse pregnancy outcomes per year, including 143,000 early foetal deaths and stillbirths and 61,000 neonatal deaths. These could be prevented if all pregnant women were screened for syphilis, and treated with a single dose of penicillin if they test positive, before 28 weeks' gestation.

Serological tests for syphilis are either treponemal (e.g. TPHA, TPPA), or non-treponemal (e.g. RPR or VDRL). Treponemal tests remain positive for life, whereas non-treponemal tests usually revert to negative after successful treatment, and can therefore be used as a test of cure. They may give false-positive results because of other infections (e.g. malaria), or autoimmune diseases. Until recently it has not been possible to screen women attending antenatal clinics that do not have access to a laboratory. However, sensitive and specific treponemal point-of-care tests are now available at an affordable price (<\$1) which can give a result in 15 minutes and require neither electricity nor laboratory equipment.

Further Reading

1. Richens J, Mayaud P, Mabey DCW. Sexually transmitted infections (excluding HIV). In: Farrar J, editor. *Manson's Tropical Diseases*. 23rd ed. London: Elsevier; 2013 [chapter 23].
2. Korenromp EL, Rowley J, Alonso M, et al. Global burden of maternal and congenital syphilis and associated adverse birth outcomes—Estimates for 2016 and progress since 2012. *PLoS One* 2019;14: e0211720. <https://doi.org/10.1371/journal.pone.0211720>.
3. Watson-Jones D, Changalucha J, Gumodoka B, et al. Syphilis in pregnancy in Tanzania. I. Impact of maternal syphilis on outcome of pregnancy. *J Infect Dis* 2002;186(7):940–7.
4. Watson-Jones D, Gumodoka B, Weiss H, et al. Syphilis in pregnancy in Tanzania. II. The effectiveness of antenatal syphilis screening and single-dose benzathine penicillin treatment for the prevention of adverse pregnancy outcomes. *J Infect Dis* 2002; 186(7): 948–57.