

A newborn boy is brought to the nursery for evaluation after delivery. The mother received no prenatal care but reports that the pregnancy was uncomplicated and she was healthy. The infant was born via spontaneous vaginal delivery and required no resuscitation. Apgar scores were 8 and 9 at 1 and 5 minutes, respectively. On examination, the infant is below the 3rd percentile for weight, 25th percentile for length, and 50th percentile for head circumference. Hepatosplenomegaly is present on examination. Over the next 48 hours, the infant develops jaundice, clear rhinorrhea, and a maculopapular rash on the feet and buttocks that later desquamates. Which of the following congenital infections is most likely in this patient?

- ☐ A. Cytomegalovirus
- ☐ B. HIV
- ☐ C. Rubella
- ☐ D. Syphilis
- ☐ E. Toxoplasmosis

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- ☐ A. Cytomegalovirus [24%]
- ☐ B. HIV [4%]
- ☐ C. Rubella [19%]
- ☒ D. Syphilis [49%]
- ☐ E. Toxoplasmosis [3%]

Proceed to Next Item

Explanation:

User Id: [REDACTED]

Clinical findings of congenital infections	
All	<ul style="list-style-type: none"><li>• Intrauterine growth restriction</li><li>• Hepatosplenomegaly</li><li>• Jaundice</li><li>• Blueberry muffin spots</li></ul>
Cytomegalovirus	<ul style="list-style-type: none"><li>• Periventricular calcifications</li></ul>
Toxoplasmosis	<ul style="list-style-type: none"><li>• Diffuse intracerebral calcifications</li><li>• Severe chorioretinitis</li></ul>
Syphilis	<ul style="list-style-type: none"><li>• Rhinorrhea</li><li>• Abnormal long-bone radiographs</li><li>• Desquamating or bullous rash</li></ul>



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Rubella	<ul style="list-style-type: none"><li>• Cataracts</li><li>• Heart defects (eg, PDA)</li></ul>

PDA = patent ductus arteriosus.  
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This infant has profuse rhinorrhea and a desquamating skin rash, which are suggestive of **congenital syphilis**. This infection is acquired via transplacental transmission of *Treponema pallidum* from the mother to the fetus. Most infants with congenital syphilis are initially asymptomatic. Those who do have clinical findings as newborns usually have **nonspecific** signs of congenital infection, including jaundice and hepatosplenomegaly (due to fetal reticuloendothelial activation), blueberry muffin spots (due to extramedullary hematopoiesis), and growth restriction (due to fetal inflammation).

Features that are more specific for congenital syphilis include:

1. Copious clear, purulent, or serosanguineous rhinorrhea (**snuffles**)
2. A diffuse **maculopapular rash** that can involve the palms and soles and may **desquamate** or become **bullous**
3. **Abnormal long-bone radiographs** (eg, metaphyseal lucencies)

The diagnosis of maternal syphilis is determined by serologic testing, usually with a nontreponemal test (eg, VDRL test or rapid plasma reagin [RPR]) in combination with a treponemal-specific test (eg, *Treponema pallidum* particle agglutination assay). Prenatal diagnosis and **penicillin** treatment can prevent the majority of congenital syphilis cases. For infants who do develop congenital syphilis, penicillin therapy is curative and prevents the development of late manifestations (eg, frontal bossing, saddle nose, Hutchinsonian



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**(Choice A)** Congenital cytomegalovirus is characterized by periventricular calcifications (and microcephaly, in severe cases).

**(Choice B)** Infants with congenital HIV infection are usually asymptomatic at birth.

**(Choice C)** Congenital rubella syndrome classically presents with the triad of sensorineural hearing loss, cataracts, and heart defects (eg, patent ductus arteriosus).

**(Choice E)** Major clinical findings of congenital toxoplasmosis include diffuse intracranial calcifications, hydrocephalus, and severe chorioretinitis. Skin lesions and rhinorrhea are not seen.

#### Educational objective:

Congenital syphilis presents with nonspecific signs of congenital infection (jaundice, hepatosplenomegaly, blueberry muffin spots, and growth restriction). More specific findings that are highly suggestive of congenital syphilis include snuffles (copious rhinorrhea) and a maculopapular rash that may desquamate or become bullous.

#### References:

1. [A review of the guidelines for the evaluation and treatment of congenital syphilis.](#)
2. [Congenital syphilis-persisting pestilence.](#)



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