

A CASE OF CONGENITAL SYPHILIS COMPLICATED BY SEVERE HEPATOCELLULAR DYSFUNCTION, THROMBOCYTOPENIA, AND ATYPICAL SKIN LESIONS

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INTRODUCTION

- Congenital Syphilis (CS) is a multisystem infection of the newborn caused by the spirochete *Treponema pallidum*.
- Transmission to the fetus is predominantly via the placenta. Only severe cases are clinically apparent at birth.
- Clinical features: low birth weight, hepatomegaly, jaundice, flattened nasal bridge, blood-stained nasal discharge, petechiae, and copper-colored papular rash on palms and soles.
- In 2018 there were 1306 new cases reported, a 40% increase from 2017 nationally, with a 92% increase in Oklahoma.

CASE PRESENTATION

Presentation

- A 28-year-old woman with no prenatal care, positive admit maternal syphilis antibody, and negative HIV status underwent C-section and delivered a newborn female infant weighing at 3020 g with APGARS 6 and 9 at a gestational age of 38w5d.

Maternal History

- Significant for illicit drug use
- Positive UDS for methamphetamine and marijuana prior to delivery.

Newborn Exam

- Indicated hepatomegaly
- Admission was complicated by hypoglycemia, thrombocytopenia and hyperbilirubinemia

Admit

- Admitted to NICU after initial evaluation.

CASE DESCRIPTION

PHYSICAL EXAM:

- Hypotonia, low set ears (R>L), flattened nasal bridge.
- Hepatomegaly
- 2/6 holosystolic murmur
- Scattered bruising/petechiae on back
- Erythematous ring-shaped lesion on right palm (Image 1), right foot

Image 1



DIFFERENTIAL DIAGNOSES: TORCH infection, Glycogen Storage Disease, Fetal Alcohol Syndrome, and Other Genetic Disorder

TESTS:

Laboratory Test	Patient's Results	Reference Range
Rapid Plasma Reagin Test	1:64	0
Platelets	30,000 U/microL	150,000-450,000 U/microL
Serum Glucose	28 mg/dL	45- 125 mg/dL
Serum HSV	0	0
Alkaline Phosphatase	422 U/L	150-420 U/L
Alanine Aminotransferase	91 U/L	13-45 U/L
Aspartate Aminotransferase	255 U/L	47-150 U/L
Direct Bilirubin	1.96 U/L	<1.5 mg/dL

- LP w/ CSF analysis: VRDL non-reactive, HSV PCR undetectable
- Liver US: hepatomegaly
- HIDA scan: severe hepatocellular dysfunction without ability to exclude biliary atresia.
- ECHO: patent foramen ovale, no other abnormalities

FINAL DIAGNOSIS: Congenital Syphilis

TREATMENT/OUTCOME:

- 10 days of Penicillin G
- Platelet transfusion given on day 2 of life after which levels normalized.
- Ursodiol treatment initiated due to significant hepatocellular dysfunction
- Weight loss and difficulty feeding resolved upon switching to Similac Spit Up formula.
- Discharged with Ursodiol 15 mg/kg/day
- Follow-up: audiology, hepatology/gastroenterology, infectious disease, ophthalmology

DISCUSSION & REVIEW

- Mothers with primary and secondary syphilis are at a higher risk of vertical transmission, with transmission rates ranging from 60-100%.
- Ring-shaped skin lesions, typically not seen until later in the disease course, as large as 2 cm in diameter were present at birth on both the hand and the foot.
- Patient had a healthy birthweight, whereas classic CS patients are four times more likely to have low birth weights. (Due to lack of prenatal care, gestational age of mom may be unreliable).
- Although early diagnosis and treatment are linked to better outcomes, our patient's vast hepatocellular dysfunction may be an indicator of a poorer prognosis.

CONCLUSION

- Identification and treatment of CS is crucial to prevent harmful late manifestations which can appear after age 2. These include CNS abnormalities, sensorineural deafness, interstitial keratitis, Hutchinson teeth, and bone and joint abnormalities.

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