A Toddler with Rash, Neutropenia, and Thrombocytopenia

LEARNING POINTS

- Distinguishing late congenital vs. early acquired syphilis
- Non-sexual modes of transmission of syphilis
- Jarisch-Herxheimer reaction

CASE PRESENTATION

3-year-old previously healthy female presents with rash for two weeks:
- Non-painful, non-pruritic rash
- Trunk/back > extremities
- Few on palms/soles

Review of systems: no fever, mild cough/congestion in the past few days, otherwise negative

PMH/PH/Meds/Allergies: none

Immunizations: Up to date

Family history
- Older sibling: spina bifida
- Mother diagnosed with syphilis 1 year ago (during birth of younger sibling); mother was appropriately treated

Exposure History
- Lives in semi-rural community in Colorado, no recent travel
- Pets at home: 2 cats, parrot
- Direct contact with cows, goats ~2 mo ago on trip to farm
- Unpasteurized dairy or raw meat: none

DISCUSSION

Is This Late Congenital or Early Acquired Syphilis?

- No stigma of late congenital infection
- Timeline of maternal lab testing inconsistent with congenital infection
- Timeline of maternal symptoms inconsistent with congenital infection
- Re-infection of younger sibling supports alternative mechanism

Likely non-sexual transmission

- Child Abuse Team evaluation – sexual abuse unlikely based on exam, confidential interview with patient, police investigation
- Mother endorsed:
  - Bed-sharing with genital lesions present
  - Sharing food/utensils with tongue lesions present
- Breastfeeding with eroded lesion on nipple

Jarisch-Herxheimer reaction

Four hours after first PCN dose, pt developed fever (39.4), tachycardia, flushing, dramatic worsening of rash
- First described in 1895
- Occurs in 10-35%
- Mechanism unknown, possibly treatment increases spirochete’s susceptibility to phagocytosis?
- Happens with all spirochetes, but symptoms/timeing vary by organism
- Benign: resolves without intervention

RESULTS

Vitals and Exam
- Temp 98.2, BP 89/65, HR 128, RR 24, SpO2 93%
- Normal growth parameters
- Exam normal except for rash over chest, back, trunk/back.
- No stigmata of late congenital infection
- Urinalysis: negative
- Electrolytes/Renal function: normal
- Glucose 53, Protein 13

Labs and Imaging
- Neut: 1.4% (ANC 20)
- Lymph: 93%
- Monon: 3%

Complete Metabolic Panel
- Electrolytes/Renal function: normal
- Bilirubin 0.6
- AST 259
- ALT 235

Cerebrospinal Fluid
- WBC 0, RBC 1
- Glucose 53, Protein 13
- CSF VDRL: negative

Follow up lab results (2 months later)
- WBC: 1.51 → 8.06, ANC: 20 → 3100
- AST/ALT 20/3935 → 4624
- RPR: 1.188 → 1.4

Bilirubin 0.6

The child was started on penicillin for syphilis and discontinued breastfeeding.

CONCLUSIONS

- There are multiple ways to contract syphilis, including many different non-sexual methods.
- A young child with acquired syphilis should always be evaluated closely for child abuse.
- A Jarisch-Herxheimer reaction can be impressive, but it is generally harmless in syphilis.