Just Normal Infant Irritability?

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INTRODUCTION

❖Pregnancy is a unique, intimate situation that can influence the woman, partners, and their offspring.
❖Syphilis can cross the placenta at any time during the pregnancy & overall risk of transplacental syphilis infection is 60-80%. [1,2]
❖Congenital Syphilis has severe and very diverse sequelae including stillbirths, neonatal death, cerebral palsy, hydrocephalus, sensorineural hearing, musculoskeletal deformity, and bone lesions. [2]
❖Often separated into early and late stages, congenital syphilis can affect bone development in various manners including osteomyelitis. [2]

HISTORY

❖11-week-old previously healthy female infant presented originally to outside hospital (OSH) with chief complaint of decreased movement of the right arm and irritability.
❖Mother reported the patient to be more irritable than usual and decreased movement of the right arm for 2-3 days, denying any known trauma from herself or other family members.
❖OSH X-rays of bilateral upper extremities showed periostitis of diaphysis of the right radius and fracture of distal left radial metaphysis but X-ray of complete fetal osseous survey showed no evidence of fractures, dislocation, lytic, or sclerotic lesions.
❖With concern for non-accidental trauma (NAT), the patient was transferred to pediatric tertiary care hospital for higher level of care.
❖On a full 10 system ROS, the patient only endorsed the chief complaints, otherwise negative.
❖Patient was admitted for concern for NAT and further workup.

PHYSICAL EXAMINATION

❖Vitals : Temp 99.4F, HR 144, RR 30, SpO2 98% on room air.
❖General: Non-toxic appearing female infant in no acute distress
❖Head: Normocephalic and atraumatic. Soft and non-bulging fontanelles. No nasal discharge.
❖Neck: Some neck lymphadenopathy.
❖Lungs: No chest retractions with normal breath sounds.
❖Heart: Regular rate and rhythm with normal S1/S2.
❖Extremities: Warm, well-perfused, brisk capillary refill, with no clubbing, or cyanosis. **Noticeable decreased tone in right arm with no focal neurologic findings, otherwise moving all extremities spontaneously.**
❖Skin: No rash or bruising.

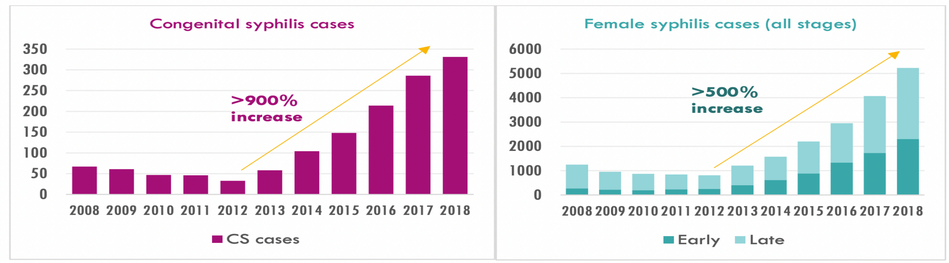
DIFFERENTIAL DIAGNOSES

- ❖ Nonaccidental Trauma
- ❖ Neoplasm
- ❖ Accidental Trauma
- ❖ TORCH infection
- ❖ Osteomyelitis
- ❖ Congenital Syphilis

REFERENCES:

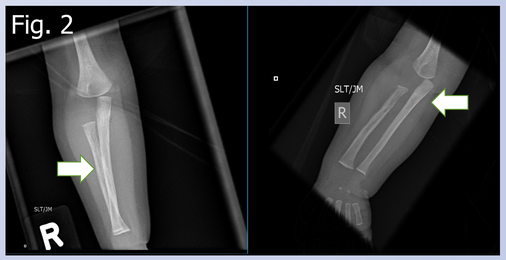
1. Congenital Syphilis Screening Guidelines for California Medical Providers
2. Merck Manual Congenital Syphilis
3. USPSTF Syphilis Screening For Infection in Pregnant Women

Figure 1: Congenital Syphilis and Female Syphilis, California 2008 – 2018



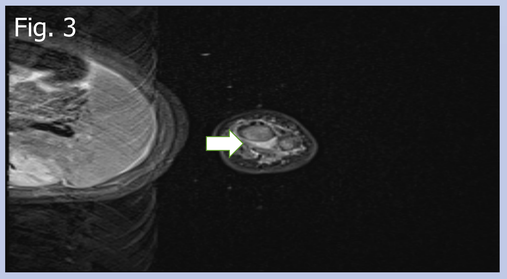
X-RAY OF RIGHT FOREARM

Fig. 2



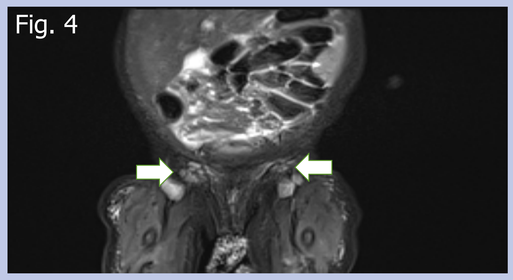
LEFT DISTAL RADIUS OSTEOMYELITIS AND SUBPERIOSTEAL ABSCESS

Fig. 3



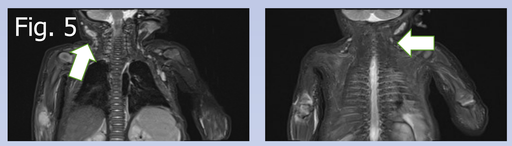
INGUINAL LYMPHADENOPATHY

Fig. 4



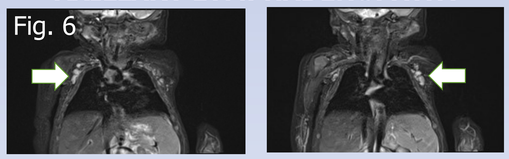
NECK LYMPHADENOPATHY

Fig. 5



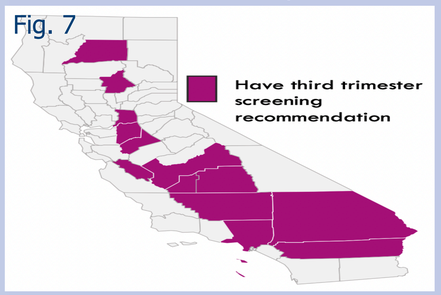
AXILLARY LYMPHADENOPATHY

Fig. 6



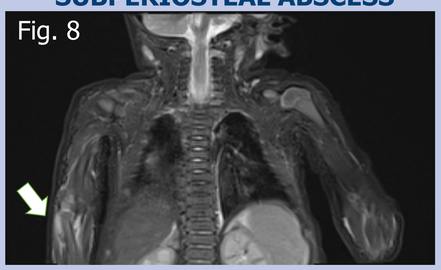
CA Counties with 3rd Trimester Syphilis Screening Recommendation, 2018

Fig. 7



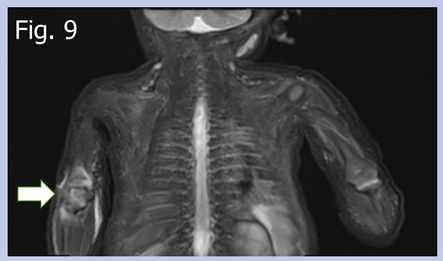
RIGHT PROXIMAL RADIAL OSTEOMYELITIS WITH SUBPERIOSTEAL ABSCESS

Fig. 8



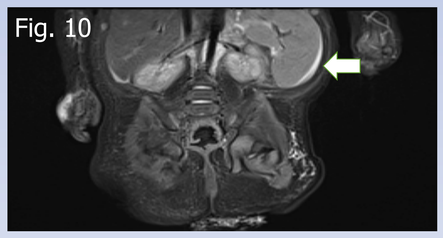
RIGHT ELBOW SEPTIC ARTHRITIS

Fig. 9



SPLENOMEGALY

Fig. 10



IMAGING

❖**X-rays**: Salter-Harris Type 2 fracture of left distal radius, irregular cortical margins along right proximal radial metaphysis, diaphysis with medullary lucencies concerning for infection or neoplasm more than fracture, smooth periosteal reaction of right second through fifth metatarsals. (Fig. 2)
❖**CT abdomen**: borderline hepatosplenomegaly.
❖**MRI of whole body**: osteomyelitis with periosteal abscess in left distal radius, right radial osteomyelitis with subperiosteal abscess (Fig. 8), septic right elbow arthritis with synovitis (Fig. 9), possible cellulitis of right hand, splenomegaly (Fig. 10), and prominent neck, axillary, and inguinal lymph nodes concerning for disseminated osteomyelitis (Fig 4-6).

LABS

❖**Negative**: Amylase/Lipase, UDS, Leukocytosis, Blood Culture, Fungal culture, Joint cultures, RVP, I&D gram stain & culture of right elbow & left wrist.
❖**Elevated**: ESR, CRP, AST, ALT, Alk Phos.
❖**Positive**: Syphilis titers 1:1024.
❖**Lumbar puncture** by IR: Elevated lymphocytes and VDRL at 1:4.

FINAL DIAGNOSIS

Disseminated Congenital Neurosyphilis with Syphilitic Osteomyelitis

TREATMENT & OUTCOMES

❖Forensics and infectious disease consulted for further workup.
❖Orthopedic surgery completed irrigation and debridement of bilateral upper extremity.
❖Ophthalmology consulted and saw no retinal hemorrhages.
❖Additional episode of acute respiratory distress, tachycardia, and fevers shortly after 1st penicillin dose due to Jarisch-Herxheimer reaction.
❖Completed 14 total days of IV penicillin G.
❖Discharged from the hospital with instructions for outpatient care.

PATIENT MANAGEMENT & DISCUSSION

❖At the 2 months post-discharge visit in the residency clinic, syphilis titer decreased to 1:32 and ESR to 2. At 6 months, titer at 1:32.
❖Plan for admission at 6 months of age for continued full workup including repeat LP to monitor titers, long bone X-rays.
❖Per CDPH, female syphilis cases increased 550% and congenital syphilis cases increased 900% from 2012 to 2018. (Fig. 1)[1]
❖Furthermore, San Bernardino County ranked 7th in congenital syphilis cases among counties in California.[1]
❖Presenting symptoms of Congenital Syphilis are so varied and outcomes could be detrimental.
❖Early syphilis screening during prenatal care is recommended in all women. (USPTF Grade A Recommendation)[3]
❖This case highlights the importance of maternal syphilis screening and considering syphilis as part of the differential diagnosis in newborns presenting with irritability.
❖In addition, women who are at high risk for syphilis or live in areas of high syphilis morbidity should be screened again early in the third trimester (~28 weeks' gestation) and at delivery. (Fig. 7)[1]