GLOBAL HEALTH CASE STUDY
RACHEL LE

HISTORY OF PRESENT ILLNESS

- Location: Vadodara, India
- Gender: female
- Age: 14 years
- Complains: perforation, anterior hard palate, difficulty eating, difficulty speaking

ANY IDEAS?
PAST MEDICAL HISTORY

- Birth: term, vaginal, no complications, home
- Other: vision loss onset at 5 years, hearing loss onset unknown
- Denies: physical trauma, sexual activity, child abuse, drug abuse

EXAMINATION RESULTS

- Physical: 1 cm diameter perforation, spaced upper incisors, no lymphadenopathy
- Slit-Lamp: opaque cornea, bilateral
- Audiogram: sensory neural deafness
- Other Findings: electrocardiogram, chest x-ray, leg x-ray, all normal

ANY IDEAS?
PATIENT LABORATORY RESULTS

- CBC: normal
- HIV: nonreactive
- VDRL: reactive

MOTHER, FATHER LABORATORY RESULTS

- Mother: VDRL reactive
- Father: VDRL reactive

CONGENITAL SYPHILIS
SYPHILIS ETIOLOGY, TRANSMISSION, PATHOGENESIS

- *Treponema pallidum pallidum*
- *endemicum - bejel*
- *carateum - pinta*
- *pertenue - yaws*
- Transmission: acquired, congenital

MANIFESTATION OF ACQUIRED SYPHILIS

- “The Great Imitator”
- Primary: 0 to 5 weeks; painless chancres (genitals, rectum, anus, urethra, mouth), painless lymphadenopathy, infectious
- Secondary: 5 to 10 weeks; fatigue, headache, fever, lymphadenopathy, pharyngitis, arthritis, rash, infectious
- Tertiary: 10 weeks to death; gummatus, integumentary system, skeletal system (e.g., osteochondritis), cardiovascular system (e.g., aortitis), central nervous system (e.g., meningitis, dementia), hepatitis, noninfectious

CONGENITAL SYPHILIS EPIDEMIOLOGY

- Oldest recognized congenital infection
- +2 million pregnant women
- 1.5% pregnancies
- +90% risk of transmission
- 1.5 million adverse outcomes (i.e., spontaneous abortion, premature delivery, stillbirth, congenital syphilis)
- 650,000 perinatal deaths
MANIFESTATION OF CONGENITAL SYPHILIS (INFANT, EARLY CONGENITAL)

- Transmission: transplacental, later half of pregnancy, birth
- Symptoms: irritable, fever, rash (pains, soles, mouth, anus, genitals), lymphadenopathy, hepatosplenomegaly, osteochondritis, epileptic episodes, saddle nose, failure to thrive
- 66% of newborns asymptomatic

MANIFESTATION OF CONGENITAL SYPHILIS (CHILD, ADOLESCENT, LATE CONGENITAL)

- Symptoms:
  - hutchinson's triad (i.e., notched incisors, interstitial keratitis, vestibulocochlear nerve damage)
  - skeletal involvement (e.g., olympian brow, clavicle thickening, saber shin)
  - cardiovascular involvement (e.g., aortitis)

DIAGNOSTIC TOOLS

- VDRL: Venereal Disease Research Laboratory Test, blood, cerebrospinal fluid, antibodies
- RPR: Rapid Plasma Reagin, blood, antibodies
- FTA-ABS: Fluorescent Treponema Antibody Absorbed Test, bacteria
- Microscopy with Dieterle Stain, chancre fluid
- Other: x-ray, slit-lamp examination, audiogram
SYPHILIS TREATMENT AND FOLLOW-UP

- Patient, Parents: benzathine penicillin, 2.4 million units, 3 times per week, intramuscular
- Follow-Up Examination: decreased perforation
- Other Options: tetracycline, doxycycline
- Currently: insignificant antibiotic resistance development, but no vaccine, too few surface proteins for antibody recognition

SYPHILIS HISTORICALLY

- Christopher Columbus
- William Shakespeare
- Giacomo Casanova
- Napoleon Bonaparte
- Ludwig van Beethoven
- Abraham Lincoln
- Lei Tolekoy
- Edward Mirel
- Vincent van Gogh
- Adolf Hitler
- Al Capone
- Benito Mussolini

TAKE HOME MESSAGES

- +90% risk of transmission
- Irreversible symptoms, but treatable
- Maternal and neonatal, prenatal and postnatal, screening and treatment
- Assume children with syphilis were infected through sexual abuse
- Rate of syphils increasing in United States
Indian J Sex Transm Dis. 2011 Jan;32(1):34-6
A Case of Congenital Syphilis with Hutchinson's Triad
Singhal P, Patel P, Marfatia YS

Thank You