

EP17.17 Effect of Maternal Syphilis Infection on Fetal Growth, Femur Length, and Femur Density

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Objective

- ❑ Congenital Syphilis infection (CSI) can affect the growth and development of fetal long bones. We aim to evaluate longitudinal changes in femur length and density in fetuses exposed to maternal syphilis infection (SI).

Methods

- ❑ Prospective study of 78 pregnant subjects diagnosed and treated for SI according to the CDC guidelines.
- ❑ Serial ultrasound (US) scans were performed within 7 days of indicated treatment. Estimated fetal weight (EFW) and femur length (FL) were evaluated every 4 weeks until delivery.
- ❑ A severe drop in EFW and FL was defined as a $\geq 40\%$ reduction from the original percentile when comparing the first and last US scans.
- ❑ For comparison, EFW and FL changes were evaluated in 130 fetuses from uncomplicated pregnancies matched by gestational age at first US and maternal characteristics.
- ❑ Bone density was evaluated by the variation in US echogenicity (pixel intensity 0-255) in three-thirds of the femur, in fetuses that at birth presented or not criteria for CSI.

Results

- ❑ Overall growth: fetuses exposed to SI showed an average drop in EFW percentile of 11%, with 25/78 (32.0%) fetuses showing a $\geq 40\%$ drop. Non exposed fetuses showed an average drop of 5% in EFW percentile with 24/130 (18.4%) showing a severe drop ($p=0.02$).

- ❑ Femur length: fetuses exposed to SI showed an average drop in FL of 34%, with 45/78 (57.7%) showing a severe FL drop; whereas non-exposed fetuses showed an average FL drop of 13%, with 49/130 (37.6%) showing severe FL drop ($p=0.006$.)
- ❑ No differences in US echogenicity were observed at any of the femur segments when comparing 11 fetuses with CSI criteria at birth and 45 without CSI criteria.
- ❑ Severe FL drop was observed in 6/8 (75%) fetuses with CSI criteria at birth, and in 32/55 (58%; $p=0.2$) of fetuses without CSI criteria.

Fetal exposure to maternal syphilis can affect fetal growth, in particular femur growth.

Longitudinal changes in femur length in fetuses exposed to maternal SI should be evaluated.

