Sexual dimorphisms in retinopathy of prematurity following complete vs incomplete antenatal corticosteroid prophylaxis

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Objective. This study sought to assess sexual dimorphisms in retinopathy of prematurity (ROP) occurrence following 12 mg (incomplete course) *versus* 24 mg (complete) of betamethasone prophylaxis in preterm infants.
Materials and Methods. This study is a retrospective single-center cohort analysis including neonates born between 24 and 34 weeks of gestation from 2001 to 2019. The study population was divided into two groups according to neonatal sex. The primary outcome was ROP occurrence, and the main covariate was complete *vs* incomplete antenatal corticosteroid (CCS) prophylaxis.
Results. The study population included a total of 995 single pregnancies exposed to a complete (803) or incomplete (192) CCS prophylaxis. The female population comprised 467 (46.93%) newborns, and the males were 528 (53.07%). The prevalence of ROP was 20.34% (95/467) in the female population and 18.18% (96/528) in males ($p = 0.388$).
In the female population in the complete CCS group, there was a significantly lower prevalence of ROP, 17.88% (69/386) *vs* 32.10% (26/81) in the incomplete CCS group ($p < 0.05$). No significant differences were observed in the male population between complete CCS (18.23%, 76/417) and incomplete CCS (18.02%, 20/111). In multivariate logistic regression analysis the complete CCS prophylaxis was significantly protective for ROP in females (OR 0.37, 95%CI 0.19-0.72, $p < 0.05$). While, in the male population, it was not (OR 1.01, 95%CI 0.59-1.75, $p = 0.960$).
Conclusions. Preterm female fetuses will benefit from a complete CCS course to reduce the ROP occurrence, but males will not.