MOTHER-TO-CHILD TRANSMISSION OF *CHLAMYDIA TRACHOMATIS* AND *NEISSERIA GONORRHOEAE*: COHORT STUDY IN PAPUA NEW GUINEA

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Background:
Chlamydia trachomatis (CT) and *Neisseria gonorrhoeae* (NG) can be transmitted from mother-to-child during labour, causing ophthalmia neonatorum (CT and NG) and neonatal pneumonia (CT). The objective of this study was to assess mother-to-child transmission of CT and NG, using nucleic acid amplification tests (NAAT).

Methods:
This study was nested in the Women and Newborns Trial of Antenatal Interventions and Management in Papua New Guinea. Women in the control phase collected a urine sample at 34-36 weeks of pregnancy, with post-natal treatment if CT/NG were detected (Xpert CT/NG, Cepheid). All newborns had eye swabs taken within 72 hours and at 1-2 weeks and 4-6 weeks if they had signs of conjunctivitis, with treatment if CT or NG were detected. All newborns had a nasal swab taken at 1-2 and 4-6 weeks, tested using Xpert CT/NG or Cobas PCR (Roche). We calculated proportions (with 95% confidence intervals, CI) of positive swabs among babies of mothers with CT or NG.

Results:
Of 961 mother-baby pairs, 57 mothers had CT and 25 had NG at 34-36 weeks. Among newborns of these mothers, 17/57 (29.8%, 95% CI 18.4-43.4) had CT and 7/25 (28.0%, 12.1-49.4) had NG detected in eye swabs at birth. Of those with clinical signs of conjunctivitis at 1-2 weeks, 9 babies of 15 infected mothers had CT (60.0%, 32.3-83.7); 2 babies remained CT-positive at 4-6 weeks. No baby had NG detected subsequently. CT prevalence in nasal swabs was 23.6% (13.2-37.0, 13/55) among babies with a visit at 1-2 weeks and 24.6% (14.1-37.8, 14/57) at 4-6 weeks.

Conclusion:
Mother-to-child CT and NG transmission are frequent. Proportions of NAAT-detected CT or NG in eye swabs at birth were similar to previously published studies using culture. Nasal carriage persists up to 6 weeks in about a quarter of babies of mothers with CT.

Disclosure of Interest Statement:
Cepheid (Sunnyvale, CA, USA) contributed diagnostic consumables at subsidised cost. No authors have any other interests to disclose.
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