

CASE-CONTROL STUDY OF ECTOPIC PREGNANCIES IN MYANMAR: INFECTIOUS ETIOLOGICAL FACTORS

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Abstract. We studied the role of infections in ectopic pregnancy and the different methods of detecting *Chlamydia trachomatis* infection using serology, cervical and tubal PCR assays, by using a hospital-based, case-control study conducted between November 2007 and September 2009. The sample size was 339 with 113 cases and 226 controls. The cases were women admitted for the management of ectopic pregnancy while the controls were women admitted for spontaneous miscarriage. Both cases and controls were tested for syphilis and chlamydial infection by serology. In addition, cervical samples from controls and both cervical and tubal samples from cases were examined for the presence of chlamydia and gonococcal DNA. Sociodemographic data and past histories were collected using set Proforma. Independent variables for multivariate analysis included previous history of spontaneous abortion, ectopic pregnancy, symptoms of sexually transmitted infections (STI), and use of contraception. Women with a previous history of ectopic pregnancy (adjusted OR 28.3; 95% CI 5.8-138.8; $p=0.01$) and a past history of having had symptoms of STI (adjusted OR 11.06; 95% CI 5.45-22.44; $p=0.0005$) were significantly more likely to have an ectopic pregnancy than those without such a history. Syphilis serology was positive in 13.3% of ectopic pregnancy cases compared to only 3.5% of controls (crude OR 0.24; 95% CI -0.10-0.58; $p=0.001$). From cervical swabs, chlamydia DNA was detected significantly more frequently in cases than controls (8.0% vs 2.2%; crude OR 0.261; 95% CI -0.09-0.80, $p=0.012$) but gonorrhea DNA detection rates were not significantly different (3.5% vs 0.9%, crude OR 0.24; 95% CI -0.04-1.35; $p=0.1$). Chlamydia was positive in cases only as diagnosed tubal samples for PCR in 17 (15.0%), cervical samples for PCR in 9 (8.0%) and IgM ELISA in 6 (5.3%). Among the three STI tested in this study, *C. trachomatis* was the most frequently associated with ectopic pregnancy and was more frequently diagnosed by PCR on tubal samples than PCR on cervical samples or chlamydia IgM serology.

Keywords: ectopic pregnancy, sexually transmitted infections, case-control study

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