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Screening for asymptomatic bacteriuria in pregnancy: a pilot study

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Introduction

Asymptomatic bacteriuria (ASB) is generally defined as the presence of significant bacteriuria without symptoms of an acute urinary tract infection (UTI). ASB is the most common bacterial infection requiring medical treatment in pregnancy. The relationship between ASB in pregnancy with symptomatic UTI and adverse pregnancy outcomes was described previously, showing that treatment of bacteriuric pregnant women prevented pyelonephritis and avoided up to 20% of preterm deliveries. Through screening and aggressively treating pregnant women with ASB, it can decrease the annual incidence of pyelonephritis during pregnancy significantly and hence the incidence of preterm birth. However, from Guidelines on Antenatal Care published by The Hong Kong College of Obstetricians and Gynaecologists (HKCOG) in 2008, routine screening for ASB is considered to be controversial since no local data to support or dispute the routine screening for ASB.

Objectives

This study aims to determine the prevalence of ASB in pregnancy, its causative agents and its associated factors in Hong Kong population where there is no local data so far. The information can help to determine whether screening for ASB should be included in our routine antenatal care.

Methodology

This was a 6-month prospective cross-sectional epidemiological study carried out in Queen Elizabeth Hospital (QEH) from 2nd December 2011 to 2nd June 2012. Pregnant women who were Hong Kong residents, attending their first antenatal visit without symptoms of UTI and able to give written consents, were recruited. Mid-stream urine was collected and sent to Department of Microbiology, QEH for microscopy and culture.

Result

Total 1537 urine samples were collected. 87.5% were collected in the first trimester. Of all the samples, 8.2% were found to have borderline (10^4 -5 colony-forming unit CFU/ml), and 2.0% significant ($>10^5$ CFU/ml) growth on culture. Staphylococcus

species was the most common isolates (41.5%), followed by *Streptococcus* species (23.9%) for the borderline growth. While for patients with significant growth, the most common isolates was *E. coli* (33.3%) and *Streptococcus agalactiae* (21.2%). No definite associated factors including age, parity, gestation, education level, or recent sexual activity, could be found for ASB. In conclusion, ASB is common among local pregnant women at the first trimester. Screening of ASB in pregnancy is recommended. Further studies are needed to investigate the association of ASB and its treatment on the effect of possible adverse pregnancy outcomes.