Comparison of etiologies in early onset neonatal sepsis with preterm birth from preterm labor and preterm premature rupture of membrane

Hee-Jeong Jeong, Hyun-Joo Kim, Jung-Joo An, Suk-Joo Choi, Soo-Young Oh, Cheong-Rae Roh, Jong-Hwa Kim

Department of Obstetrics and Gynecology, Samsung Medical Center, Sungkyunkwan University School of Medicine

목적: Our aim is to investigate the etiological changes in early onset neonatal sepsis (EONS) in preterm birth due to preterm labor (PTL) or preterm premature rupture of membrane (PPROM) over the past 16 years.

방법: We included preterm birth before 34 weeks of gestation with PTL (n= 607) or PPROM (n=1,047) delivered at our institution. EONS was defined when the micro-organisms were isolated from the blood culture within 3 days of birth. Micro-organisms were grouped as gram positive, gram negative, and yeasts species. Comparisons of etiological micro-organisms were carried out between earlier period (January 1996 to December 2004) and later period (January 2005 to July 2012). Maternal and perinatal characteristics were reviewed.

결과: Overall, the incidence of EONS was 2.6% in PTL and 3.2% in PPROM and there was no significant change in rates of EONS in PTL (2.8% vs. 2.3%) or PPROM (2.2% vs 4.0%) between earlier period and later period. With analysis by micro-organisms causing EONS, there was no change in EONS rate caused by gram positive bacteria in PTL (2.5% vs. 1.7%) or in PPROM (1.8% vs 1.6%). However, EONS rate caused by gram negative bacteria was significantly increased in PPROM (0.7% vs 2.5%, p=0.020) between earlier period and later period, but not in PTL (0.7% vs 1.0%).

결론: The etiological pattern of EONS over the past several years in PPROM is different from PTL.

Prevalence and antibiotics susceptibility of ureaplasma urealyticum and mycoplasma hominis in normal pregnancy and preterm labor

Hee Young Cho, Young Han Kim, Ja-Young Kwon, Yong Won Park

Division of Maternal and Fetal Medicine, Department of Obstetrics and Gynecology, Institute of Women’s Life Medical Science, Yonsei University College of Medicine, Yonsei University Health System, Seoul, Korea

목적: The purpose of this study was to detect the presence of ureaplasma urealyticum and mycoplasma hominis and to determine antimicrobial susceptibility in normal pregnancy and preterm labor.

방법: Three hundreds ten pregnant women were included in the study (129 normal pregnant group and 181 preterm labor group). The culture results were divided into three groups; no colonization (NC), low density colonization (LDC, <10^4 CFU/ml), and high density colonization (HDC, ≥10^4 CFU/ml). Antimicrobial susceptibility was tested against azithromycin, ciprofloxacin, clarithromycin, doxycycline, erythromycin, josamycin, ofloxacin, pristinamycin and tetracycline using the Mycoplasma IST-2 kit.

결과: The prevalence of genital mycoplasmas was 62.8% (81/129) and 62.4% (113/181) in normal group and preterm labor group. The degree of U. urealyticum colonization was 27.1% (35/129) in LDC, and 34.9% (45/129) in HDC in normal group and 34.5% (57/181) in LDC, and 30.4% (55/181) in HDC in preterm labor group. The degree of M. hominis colonization was 17.8% (23/129) in LDC, and 0.8% (1/129) in HDC in normal group and 6.6% (12/181) in LDC, and 1.1% (2/181) in HDC in preterm labor group. The susceptibilities of genital mycoplasmas in preterm group were significantly different from normal group: azithromycin (p=0.032), ciprofloxacin (p=0.005), clarithromycin (p=0.001), doxycycline (p=0.1), erythromycin (p=0.001), josamycin (p=0.001), ofloxacin (p=0.000), pristinamycin (p=1.0) and tetracycline (p=0.386).

결론: The prevalence of genital mycoplasmas was not significantly different between two groups but U. urealyticum was considerably higher as compared to M. hominis infection. Moreover, antimicrobial susceptibilities were significantly different between normal and preterm labor group. Therefore, it suggests possibility that different strains of U. urealyticum could affect normal and preterm labor group.