PLACENTAL COLONISATION WITH MYCOPLASMAS AND ITS RELATION TO PERINATAL OUTCOME

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SUMMARY

Placental swabs were cultured for isolation of mycoplasma in three groups of patients. Group I consisted of 28 placentae of low birth weight infants, Group II of 15 placentae of still born infants and Group III of 22 placentae of term infants whose weight was appropriate for gestation. The isolation rate was 10.7, 6.6 of 9.9% respectively in three groups and the differences are not statistically significant (P>0.05).

Introduction

The frequency of isolation of Ureaplasma urealyticum and Mycoplasma hominis from genitourinary tract has been cited as indicating their commensal rather than pathogenic role (Mc Cormack et al., 1973). An association of low birth weight with isolation of genital mycoplasmas from the maternal cervix and urine was reported by Braun et al (1971). Chorioamnionitis was reported to be significantly related to the isolation of U. urealyticum from vagina of the mother and from the infant at birth (Mc Cormack et al., 1973). The lower genitourinary tract is the probable route of access of these organisms (where they could be normally present) to the endometrium and the fetal membranes.

Present study was designed to investigate the presence of ureaplasma Urealyticum and Mycoplasma hominis in the fetal membrane and to determine their association, if any, with the perinatal outcome.

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Material and Methods

Placental swabs of three groups of subjects were cultured. Group I consisted of 28 placentae low birth weight infants out of which 18 were preterm and 10 were small of dates. Group II consisted of 15 placentae of still-born infants where the cause of stillbirth was unexplained. Group III was the control group consisting of 22 placentas of term infants whose weight was appropriate for gestational age.

Culture Procedure

Placental swabs were taken soon after delivery by aseptically stripping the amnion from the chorion to exclude contaminants from the birth canal and cul-

turing the freshly exposed chorionic surface.

Swabs were obtained in mycoplasma broth and transported to the laboratory immediately. In case of delay, the transport tubes were kept at 4°C until arrival in the laboratory. Samples were inoculated in liquid (PPLO) medium tubes containing arginine for M.hominis and urea for U. urealyticum. These tubes were then incubated at 37°C in 10% CO_2 and were examined twice daily for the colour change from yellow to red indicating growth of mycoplasma. As soon as the colour change appeared in these tubes, subcultures were made into fresh liquid media and also into agar plates. The mycoplasmas were finally identified by colony characters and by using differential media containing lincomycin for U. urealyticum and erythromycin for M. hominis (Fiumra, 1972).

Results

Mycoplasma hominis was isolated from one and U. urealyticum from three out of a total of 28 placentae in group I, giving an incidence of 10.7%. While the isolation rate was 9.9% in the controls (group III placentae), only one out of 15 (6.6%) placentae of stillborn infants yielded a growth of U. urealyticum (Table I). The differences are not statistically significant (P>0.05).

Discussion

Role of mycoplasmas as pathogens in the human genitourinary tract and perinatal outcome is poorly defined (Eschenbach et al. 1977). There is considerable evidence suggesting but not proving a pathoganic role of genital mycoplasmas in non-specific urethritis, spontaneous abortion, prematurity and puerperal infection of women (Kundsin and Driscol Taylor, Robinson 1077, WHO Technical report series, 1981). Isolation rate of mycoplasma hominis and U. urealyticum in the present study was 10.7% in low birth weight group of infants, 9.9% in control group and 6.6% in stillborn infants. This incidence is comparatively lower than the incidence reported by Kundsin et al (1984) where the isolation rate was 21% in placenta of premature and term infants who died in perinatal period, 25% in the infants admitted to intensive care unit and 11% in the controls. They also reported that birth weight was inversely related to the isolation rate of mycoplasma, while this relation was not present in our study.

The presence of this organism in the normal vaginal flora of sexually active women calls for carefully controlled and microbiologically well documented studies to further clarify the possible role of mycoplasma in causation of prematurity and low birth weight.

TABLE - I

Group	Total Number	Positive for U. urealyticum	Positive for M. homini	% of positive culture
I	28	3	1	10.7
II	15	1	—	6.6
III	22	2	1	9.9

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