

Brief Report

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What is the Optimum Culture Time for *Mycoplasma hominis* and *Ureaplasma urealyticum* in Pregnant Women?

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Report

Mycoplasma hominis (Mh) and *Ureaplasma urealyticum* (Uu) were isolated in 1937 and 1954, respectively [1]. Researches proved the both organisms colonize the human genital tract and may be associated with adverse pregnancy outcomes, which may play a role in chorioamnionitis, salpingitis, bacterial vaginosis, and post-partum endometritis [2]. Sole presence of these microorganisms in the vaginal flora might be insufficient to cause pathological issues, but their combination with other factors such as bacterial vaginosis or cervical incompetence may be additionally needed to induce preterm birth [3]. Mh and Uu been confirmed relatively easy to culture [1]. However, to our knowledge, no studies have been proceeded to ascertain the optimum culture time for Mh and Uu in pregnant women, the present study was carried out to confirm the optimum culture time (from specimen collection to inoculation) for both organisms.

This is a retrospective study, 733 pregnant women in early stage were enrolled in present research from 2015-6-10 to 2016-12-30. All of them underwent vaginal secretion culture of MH and UU, which were incubated at 37°C for 48 hours (Zhongaisheng, China). The mean age was 29±6 years, culture time ranges from 6 to 2650 minutes, all 733 pregnant women were divided into group I (from 0 to 120 minutes, n=302) and group II (no less than 121 minutes, n=431) according to the culture time, respectively. The corresponding culture results (shown in Table 1).

culture results	Group I (n=302)	Group II (n=431)
Mh	0	2
Uu	32	22
Mh + Uu	12	7
Negative	258	400

Table 1: Mh and Uu culture result of pregnant women.

Mh culture positive rate between group I and group II were 3.97% and 2.09% ($\chi^2=2.268$, $P=0.132$), respectively. Uu culture positive rate between group I and group II were 14.57% and 6.73% ($\chi^2=12.175$, $P=0.001$), respectively. Group I were further divided into three subgroups according to culture time, they were group A (from 0 to 30 minutes, n=67) and group B (from 31 to 60 minutes, n=85) and group C (from 61 to 120 minutes, n=150), respectively. Uu culture positive rate among the three subgroups were 13.43%, 15.29% and 14.67% ($\chi^2=0.107$, $P=0.948$), respectively.

There was no significant difference of Mh culture positive rate between group I and II, so we could not confirm the optimum culture time for Mh in pregnant women, more cases should be tested to make a conclusion. Conversely, Uu culture positive rate was significantly higher in group I than that of group II, however, when we further grouped for group I, no significant difference was observed among the three subgroups (A, B and C), so we conclude that the optimum culture time for Uu in pregnant women is no more than 120 minutes. Several studies [4-6] support the idea that both Mh and Uu may infect the products of conception, but predominantly, Uu seems more virulent of the two opportunistic organisms. In conclusion, the optimum culture time for Uu in pregnant women is no more than 120 minutes, however, as for Mh, there is no definite conclusion.

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