

Prevalence of *Ureaplasma* and *Candida* spp. during pregnancy in WA women

Research overview

Bacteria known as genital Mycoplasmas, namely *Ureaplasma* and *Mycoplasma* spp., are frequently associated with preterm birth, yet current information regarding their presence within the vaginal tract of Australian women during pregnancy is lacking.

Unlike genital Mycoplasmas, *Candida albicans*, a yeast associated with vaginal thrush, is rarely isolated from preterm pregnancy tissues. However, like genital Mycoplasmas, recent studies have demonstrated a link between asymptomatic colonisation of the vagina with *C. albicans* and an elevated risk of preterm birth.

This study aimed to describe vaginal colonisation of *Ureaplasma parvum*, *Ureaplasma urealyticum*, *Mycoplasma hominis*, *Mycoplasma genitalium*, *C. albicans* and non-albicans *Candida* spp. within a cohort of low-risk pregnant Australian women and to document any association with preterm birth in the cohort.

Research highlights

- Vaginal swab samples were collected from 191 pregnant women over three time points during pregnancy (13-26wks, ~28 wks and ~36 wks GA)
- *Ureaplasma* spp. were detected in 48% of recruitment samples and showed minimal variance over the three time points
 - A recruitment sample is a good indicator of what is present later in pregnancy
- *Ureaplasma parvum* was the dominant species detected (81% of cases)
 - *U. parvum* was significantly associated with preterm birth
 - 65% preterm vs 36% term
 - 100% of cases of preterm birth <34 wks GA positive for *U. parvum*
 - Association was increased when factoring in co-colonisation with *Candida albicans*
- 35% preterm vs 13% term
 - *U. parvum* genotype SV6 was significantly associated with preterm birth
 - 41% preterm vs 14% term
 - Again, association was increased when factoring in co-colonisation with *C. albicans*
- 29% preterm vs 8% term
 - *C. albicans* was the most dominant *Candida* spp. detected, but was not associated with preterm birth on its own
 - 47% preterm vs 37% term

Progress report

This study has now been completed and a manuscript is currently being formulated. We plan on submitting this work to the Journal of Clinical Microbiology for publication in the near future.

Conferences

Abstracts from this research have been presented at: the Society for Reproductive Investigation conference in March 2015 by Dr Payne, the Australian Society for Microbiology annual scientific meeting in July 2014 by Dr Payne, Student's Health and Medical Research Council conference in September 2013 by Mr Rory Watts, and at the WIRF Rising Stars Symposium in October 2013 by Dr Payne.



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Sponsors

Women and Infants Research Foundation
Channel 7 Telethon Trust