

## **Normal ocular flora in newborns delivered in two hospital centers in Argentina and Paraguay**

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Date: 2005

### **Abstract**

**PURPOSE:** To determine the spectrum of normal conjunctival flora in newborns in two hospital centers in North Argentina and Paraguay. **METHODS:** In this prospective observational study, conjunctival specimens were obtained from the right eyes of newborns prior to the application of any topical medications. Culture samples were also obtained from the cervicovaginal secretions of the infants' mothers. All samples were directly inoculated into culture media and all growth were identified and quantified. **RESULTS:** Among the 190 newborns studied, 126 were delivered vaginally and 64 via caesarean section (C-section). A total of 180 different bacterial strains were acquired from the vaginally delivered infants and 77 from the C-section group ( $P=0.078$ , Student's t-test). Conjunctival cultures obtained within one hour of birth showed that 85 out of 101 samples (84%) from both the vaginal and C-section group had positive cultures, compared to 84 out of 89 samples (94%) obtained more than 1 h after birth ( $P<0.001$ ). Among the vaginally delivered newborns, the most common bacteria isolated were coagulase-negative *Staphylococcus* (in 69 samples, 38%), *Propionibacterium* spp (36, 20%) and *Corynebacterium* spp (29, 16%). In the CES, the most common isolates were coagulase-negative *Staphylococcus* (39, 51%), *Propionibacterium* spp (22, 29%) and *Staphylococcus aureus* (6, 8%). There was a significantly higher proportion of gram-positive rods ( $P=0.017$ ) isolated from infants delivered vaginally (16%) than from those delivered by C-section (5%). No *Neisseria gonorrhoeae* were isolated in conjunctival samples. Among the 130 organisms isolated from cervicovaginal secretions in 81 out of 189 mothers, the most common organisms were *Lactobacillus* spp. (47%), *Corynebacterium* spp (21%), *Gardnerella vaginalis* (15%), and *Candida* spp (14%). No *Neisseria gonorrhoeae* or *Chlamydia trachomatis* were found in cervicovaginal samples. **CONCLUSION:** The most common conjunctival bacteria in newborns delivered by either vaginal birth or C-section were coagulase-negative *Staphylococcus*. The proportion of positive conjunctival cultures was higher for infants delivered vaginally than for C-section delivery.