The urogenital microbiota in growing and young adult, male and female, littermate Beagle dogs: a descriptive study in healthy dogs.

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OBJECTIVE

The objectives of this study were to determine if there was an evolution of vaginal, prostatic, and urinary microbiota in growing dogs and if there were differences between male and female urinary microbiota, urinary and prostatic microbiota and vaginal and urinary microbiota.

METHOD

Urine, vaginal and prostatic microbiota samples were obtained from ten littermate healthy dogs (6 males, 4 females). Puppies were sampled from 4 months to 18 months of age for the male dogs and to the end of the first oestrous cycle for the female dogs. Bacteriologic culture, DNA extraction, 16S rDNA library preparation, sequencing and informatics analysis were performed. Alpha diversity of microbiota, difference and influence of age were statistically evaluated.

RESULTS

There was a significant difference of vaginal microbiota between prepubertal and pubertal female dogs and a significant influence of age on prostatic and urinary microbiota in male dogs was observed. The urinary microbiota was significantly different between male and female dogs with the abundance of Escherichia Shigella greater in female dogs but with a high individual variability. There was a significant difference between urinary and prostatic microbiota in male dogs with Enterobacter, Citrobacter and Altererythrobacter more abundant in urine. Also, there was a significant difference between urinary and vaginal microbiota in female dogs with Parvimonas, Pasteurellaceae genus and Prohormones more abundant in urines.

IMPACT/CLINICAL SIGNIFICANCE

This study describing the urogenital microbiota and his evolution from puppy to adulthood in healthy male and female dogs provides a basis of comparison of pathological cases.

FUNDING/DECLARATIONS OF INTEREST

There is no conflict of interest.