

Cao M. , Xu H. , Hui Z., Li Q.

the Second Chengdu Hospital Affiliated to Chongqing Medical University, Dept. of Urology, Chengdu, China

**Introduction & Objectives:** The male genitourinary tract contains microbes. The objective of this study was to identify potential variations in the characteristics of microbes in urine specimens, as well as semen fluids and expressed prostatic secretions (EPS).

**Materials & Methods:** Urine specimens (40), semen fluids (24) and EPS (26) from 40 healthy male volunteers were collected. Fluorescence in situ [hybridization](#)?FISH? was done for detection of bacteria in male bladder, prostate, epididymis and testis tissues. 16S ribosomal V3-4 region gene sequencing was performed on Hiseq2500 platform for detection of the microbiome in urine specimens, semen fluids and EPS.

**Results:** FISH data proved that microbes existed in male bladder, prostate, epididymis and testis tissues. Predominant microflora such as Proteobacteria, Firmicutes, Bacteroidete and Actinobacteria were shared among urine specimens, semen fluids and EPS. Furthermore, there were distinct levels of diversity and unique microbes among different specimens. Semen fluids contained the maximum number of microbes, while urine got the minimum number of microbes. There were significant differences in the relative abundance at all taxonomic levels. For example, urine specimens got the highest relative abundance of *Proteus* (Urine VS EPS: 0.005 VS 0.00009, P=0.04; Urine VS Semen fluid:0.005 VS 0.0002,P=0.04) , *Stenotrophomonas* (Urine VS EPS :0.005 VS 0.00009,P=0.04; Urine VS Semen fluids:0.005 VS 0.0002,P=0.04). However, at the genus level, only *Corynebacterium* showed a significant difference between EPS and semen fluids (EPS VS Semen fluids: 0.002 VS 0.0003, P=0.03).

**Conclusions:** Although urine specimens, semen fluids and EPS shared a predominantly common set of microbes, they harbored different microbiomes, with urine specimens especially containing the least species types but with the most unique microflora.