Helcococcus kunzii Isolated from a Sow with Purulent Urocystitis

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Helcococcus kunzii has never been reported in veterinary medicine. The isolation of H. kunzii from a sow with purulent urocystitis is described, suggesting this organism’s potential pathogenic role in swine.

CASE REPORT

In order to study bacterial flora associated with urinary tract infections (UTI) in sows, urine samples and urinary tracts from 72 multiparous culled sows were randomly collected from a local slaughterhouse in northern Italy. A 4-year-old sow (F1 Large White × Landrace), one of the 72 animals, was culled because of decreased farrowing rate. Antemortem physical examination was otherwise unremarkable. Urine samples were aseptically collected for urinalysis (physical and biochemical parameters, sediment, and bacterial culture) by means of centrifugation. There were no gross lesions in the urethra, kidneys, or other organs at postmortem examination. Tissue specimens from the urinary bladder, urethra, and kidneys were collected and sent to the laboratory for microscopic examination.

Urine appearance was orange-yellow and cloudy, pH was >9, and the specific gravity was 1.027. Biochemical urinalysis (Multistix 10 SG-Siemens and Clinitek 500 urine chemistry analyzer [Bayer]) revealed blood (2+), protein (3+), and nitrites and ketones (traces). Microscopic analysis showed hematuria (50 red blood cells/high-power field), pyuria (20 white blood cells/high-power field), numerous epithelial transitional cells, magnesium ammonium phosphate crystals, and intracellular and extracellular bacteria (1).

For the bacteriological determinations, urine specimens were plated onto Columbia agar containing 5% sheep blood and onto MacConkey agar incubated at 37°C in air and onto two separate 5% sheep blood agar plates incubated anaerobically and at 37°C in 5% CO2-supplemented air, respectively. After incubation for 24 h in aerobic, anaerobic, and 5% CO2 atmospheres, a pure, heavy growth of pinpoint, slightly gray, nonhemolytic colonies was observed on the Columbia agar but not on the MacConkey agar. Gram staining of the pinpoint colonies revealed Gram-positive cocci arranged in pairs and clusters. These colonies were catalase and oxidase negative. The enzyme profile and biochemical characteristics of the Gram-positive cocci (colorimetric Vitek 2 GP card identification system; bioMérieux) tested positive for leucine arylami-
biochemical characters, thus offering a good alternative to 16S rRNA sequencing when not available in the laboratory (8).

In conclusion, although more studies are necessary to accurately determine the role of *H. kunzii* in UTI in swine, and perhaps other animals as well, our findings are unique to date and important, because they indicate for the first time a possible pathogenic role of *H. kunzii* in pigs.

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REFERENCES