TITLE: URINARY TRACT INFECTION BY *Corynebacterium urealyticum* IN A FEMALE DOG: CASE REPORT.

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ABSTRACT:
Corynebacterium urealyticum is a Gram-positive, aerobic, fastidious and non-spore-forming bacterium. The microorganism has a tropism for uroepithelial cells and is an opportunistic pathogen to humans, particularly in urinary tract infections. This pathogen rarely has been associated with urinary infections in dogs with compromised urinary defense mechanisms. Anatomical defects, prior antimicrobial therapy, immunosuppressive drugs, and foreign bodies have all been related as predisposing causes. A 10-year-old female Pug was admitted to the Veterinary Hospital with history of chronic cystitis caused by *Escherichia coli*. Besides previous antimicrobial therapy, the animal presented history of recurrence of the clinical signs. The dog presented pollakiuria, dysuria and haematuria. Physical examination, haematology and biochemistry were unremarkable. Ultrasonographic examination revealed thickening in urinary bladder wall and probable small urolith. Urinalysis showed triple phosphate crystals and large amount of bacteria. Aerobic culture of the urine identified growth of *C. urealyticum*. Identification of the organism was performed by matrix-assisted-laser-desorption/ionization-time-offlight-mass-spectrometry (MALDI-TOF) and confirmed by 16S rRNA sequencing. *In vitro* susceptibility testing revealed sensitivity of isolate to vancomycin, linezolid, gentamicin and tetracycline. Subsequently, it was determined the Multiple Antibiotic Resistance (MAR) index of strain. Among 25 different antimicrobials, *C. urealyticum* was resistant to 21 (MAR = 0,8) drugs, characterizing the isolate as multidrug resistant. The animal was treated with the combination of ceftriaxone and gentamicin, as well as a change in diet to dissolve the bladder calculus, showing clinical improvement two weeks later. Although uncommon in dogs, urinary tract infection by *C. urealyticum* is an important finding because of the difficulty in treatment. In the present case, the animal showed urinary bladder calculus and prolonged antibiotic therapy, which represent predisposing factors that contributed to the pathogen infection. Increased antimicrobial resistance is a worry in both human and veterinary medicine. The multiple resistance of *C. urealyticum* shows a potential risk to public health, since the microorganism is an opportunist pathogen in nature and may be transmitted animal-to-human due close contact.

KEYWORDS: *C. urealyticum*, cystitis, dogs, opportunistic pathogen, antibiotic resistance.