

TITLE: OCCURRENCE OF *Stenotrophomonas maltophilia* CAUSING INFECTIONS IN DOGS AND CATS: A VETERINARY CLINICAL CHALLENGE

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ABSTRACT:

Stenotrophomonas maltophilia is a Gram-negative bacillus that can be present in almost any aquatic or humid environment and may persist for extended periods. These bacteria have a significant role as a nosocomial pathogen presenting rising importance over the last two decades. *S. maltophilia* can cause different infections as bacteremia, endocarditis, pneumonia, meningitis, infections of bones and joints, urinary tract, soft tissues, and wounds. In veterinary medicine, *S. maltophilia* is considered a colonizer, and only exist a few reports dealing explicitly with *S. maltophilia* infection. Because of the difficulties in identifying these agents at routine laboratories, these strains are commonly underdiagnosed. The present study aimed to relate the occurrence of *Stenotrophomonas maltophilia* causing infections in domestic animals, and associated with this occurrence, to emphasize the limited available therapies to treat these infections. A total of 125 Gram-negative bacterial strains from infectious processes in domestic animals (cystitis, otitis, dermatitis, and nasal secretions) were analyzed by Matrix-assisted laser desorption/ionization-time of flight mass spectrometry (MALDI-TOF MS). Seven isolates were identified as *S. maltophilia* presenting a score higher than 2.0 at MALDI-TOF MS, that confirm the identification at the species level. Six isolates were obtained from cat specimens (urinary tract infection (4) and nasal secretion (2)) and one isolate from otitis in a dog. These bacteria present a significant intrinsic resistance profile comprising resistance to ampicillin, amoxicillin, piperacillin, ticarcillin, ampicillin + sulbactam, amoxicillin + clavulanate, piperacillin + tazobactam, cefotaxime, ceftriaxone, aztreonam, imipenem, meropenem, ertapenem, aminoglycosides, tetracyclines and trimethoprim according Clinical Laboratory Standard Institute. Because of this extensive list there are few available antimicrobials to treat these infections, so it's essential a correct identification of this agent at the routine veterinary diagnostic laboratory to monitoring the presence of *S. maltophilia* as causative agents of infections in animals and to better understanding the impact of these strains on the spread of resistance at the veterinary environment.

Keywords: *Stenotrophomonas maltophilia*, intrinsic resistance, veterinary microbiology diagnosis.

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