

TITLE: MULTIDRUG-RESISTANT AND ESBL PRODUCER *Klebsiella pneumoniae* ARISING FROM INJURY IN CARCARA (*Caracara plancus*)

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ABSTRACT:

Caracara plancus, known as caracara, is one of the most common birds of prey in Brazil. It has opportunistic eating habits and is found in wooded, rural and urban regions. Bacteria of the Order Enterobacterales are part of the intestinal tract of mammals and some birds. *Klebsiella pneumoniae* has been identified in clinically healthy birds. However, extended-spectrum β -lactamase (ESBL) and carbapenemases producing strains are critical priority microorganisms according to the World Health Organization classification. These enzymes are codified by several genes, including *bla*TEM, *bla*SHV and *bla*CTX-M circulating in distinct environments. Thus, the proximity between humans and wild animals represents a risk to public health. This study reports a multidrug-resistant (MDR) *K. pneumoniae* infection in a caracara. A swab from an emphysematous subcutaneous lesion of an adult caracara was sent to the Laboratory of Veterinary Microbiological Diagnosis of UFRRJ. The agent was phenotypically characterized as *K. pneumoniae*, later confirmed by MALDI-TOF. Resistance analysis was performed using the disk diffusion method with the following antimicrobials: amikacin, amoxicillin + clavulanic acid, aztreonam, cefalexin, cefepime, ceftazidime, cefotaxime, cefoxitin, ciprofloxacin, chloramphenicol, doxycycline, enrofloxacin, gentamicin, levofloxacin, meropenem, marbofloxacin, norfloxacin, sulfamethoxazole + trimethoprim, tetracycline, and tobramycin. The phenotypic resistance revealed sensitive only to meropenem and to amikacin, yielded suggesting a possible ESBL producer with MDR profile. Genotypic analysis revealed the presence of *bla*SHV and *bla*CTX-M genes. The CTX-M β -lactamase is the most widespread among human, often coexisting with other types such as SHV. Multidrug resistance is often related to the presence of ESBL, further limiting therapeutic options. The presence of MDR and ESBL-producing strains isolated from wild animals carrying the same genes of public health importance highlights the risk of disseminating these agents in the environment and consequently the potential for zoonotic transmission, highlighting a One Health problem.

KEYWORDS: Antimicrobial Resistance, MDR, ESBL and One Health.

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