

Prevalence and Antimicrobial Resistance of Proteus Species Isolated From Pet Animals in Tabriz, Northwest of Iran

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Background & Objectives: Proteus spp. infections occur worldwide and Proteus spp. are part of the intestinal flora. Proteus spp. are generally considered pathogenic for young individuals and opportunistic pathogens for the elderly. The number of pet animals held for companionship increased drastically during the 19th century. A considerable number of Proteus serotypes have been isolated from domestic dogs and cats around the world. Antimicrobial resistance among Enteropathogenic bacteria is accepted a worldwide and increasing issue in human and veterinary medicine. Proteus has an important role in increasing of antibiotic resistance, potentially allowing it to acquire resistance determinants and act as a reservoir for resistance genes. The present study aimed to improve our understanding of Iran regional prevalence of Proteus spp. in pet animals and determination of antimicrobial resistance of Proteus strains isolated from these animals.

Methods: In present study 66 rectal swabbing samples collected from different veterinary clinics (including 54 dogs and 12 cats). After culturing, isolation and characterization in routine culture media, antimicrobial resistance pattern of isolated Proteus spp. was determined by using 14 antibiotics and standards of NCCLS (1999-2001).

Results: The bacteria was isolated from 12(18%) samples. Antimicrobial susceptibility was as follow: Penicillin 100%, Cloxacillin 100%, Colistin 92%, Methicillin 92%, Erythromycin 83%, Doxycycline 67%, Kanamycin 42%, Ampicillin 42%, Cefixime 42%, Chloramphenicol 33%, Amoxi-Clav 33%, Ceftriaxone 17%, Gentamicin 8% and Ciprofloxacin 0%.

Conclusion: This study showed the high rate of antimicrobial resistance among Proteus spp. that isolated from dogs and cats. In other hand high prevalence of this pathogen suggests the need for control and prevention. Nowadays, dogs and cats primarily live indoors, share living spaces with their owners. This study showed that these animals played significant role in public health and transition of drug resistance.

Keywords: Proteus; Prevalence; Antimicrobial Resistance; Pet Animals; Tabriz