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Etiological structure and resistance of pathogens of surgical infections

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Aim: The aim of this research is to study the etiological structure and resistance to antibiotics main pathogens of surgical infections.

Methods: A total of 943 strains isolated from hospitalized patients with surgical infection at National Scientific Medical Research Center during 2012-2014 were included to the study. The identification of isolates and antibiotic susceptibility testing was performed by VITEK 2 (bioMerieux) automated system.

Results: The etiological structure of microbiological landscape were performed the most frequently pathogens of *Enterobacteriacae*-51.7% of the total number of isolatesincluding *E. coli* stood in 29.0% of cases. The next group of frequency isolation was non-fermentative gram-negative bacilli-18.5% including detection of *Pseudomonas aeruginosa* was 17.8%. The most frequently gram-positive pathogens were *Staphylococus* (15.1%) and *Enterococcus* (10.6%). The detection rate of *Staphylococcus aureus* were 6.5% witch resistance to oxacillin were 9.1%. Average number of no susceptible strains to fluoroquinolones and macrolides was 20.4%.Resistant strains of *E.coli* to amoxicillin/clavulanate were 28.4%, cefotaxime-32.2%, ceftazidime-28.9%, cefepime-29.1%, ciprofloxacin-30.4%. Resistant strains of *Pseudomonasaeruginosa* to ceftazidime were 44.5%, cefepime-33.8%, meropenem-34.0%, gentamicin-38.1% and ciprofloxacin-39.0%.

Conclusion: The main pathogens of surgical infection were *E.coli*, *P.aeruginosa, S.aureus.* In this study, strains of *Pseudomonas aeruginosa* have the greatest resistance to antibiotics traditionally used to treat infections caused by this pathogen.

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Isolation and Characterization of Methicillin Resistant *Staphylococcus aureus* from Dog and Cat in Selective areas of Bangladesah

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Methicillin-resistant *Staphylococcus aureus* (MRSA) is known to cause nosocomial infections and is now becoming an emerging problem in veterinary medicine. The objective of the present study was to isolate and characterize the methicillin resistant *S. aureus* (MRSA) fromdogs and cats of different veterinary hospital in Bangladesh as well as to study the prevalence of MRSA in pet animals. A total of 108 samples consisting of nasal swab, pus and wound swab were collected from dogs and cats. Initially *S. aureus* was isolated and identified on the basis of cultural, staining and biochemical properties followed by molecular detection of *S. aureus* specific nuc gene. Subsequently methicillin-resistant *Staphylococcus aureus* (MRSA)was detected phenotypically by disc diffusion test using oxacillin and genotypically by amplifying methicillin resistant mecA gene. Out of 108 samples, *S. aureus* was isolated from 35 samples (32.40%) and MRSA was detected from four samples (3.70%). All four MRSA isolates were detected from dogs (4.39%), while none of the examined cats yielded MRSA. Higher prevalence of MRSA was recorded in CVH, Dhaka (5.12%) compare to SAQTVH, CVASU, Chittagong (4.87%). No MRSA was found in VTH, BAU, Mymensingh. All MRSA isolates showed sensitive to vancomycin.This study suggests that dogs may act as a potential reservoirs of MRSA from which human may get infection and thus spread MRSA in human community.

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