Three-year prevalence survey of nosocomial infection in the same hospital

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Objective: To investigate the prevalence of nosocomial infection (NI) in the same hospital in the past three years.

Methods: The survey form of personal case was filled by adopting the method of combining clinical investigation and consulting inpatients medical records.

Results: The average rate of nosocomial infection (NI) was 4.8%; rate of NI was different in the different; there were not significant difference among age, hospitalization, invasive operation, infection sites, antibiotics using in the past three years, but, the rate of NI were changing in the different department in the three years.

Conclusions: The rate of NI were changing in the different hospitals and departments. The survey and control of NI should be strengthened in the department and the season with high rate of nosocomial infection.

Isolation of intracellular Rickettsia bacterium Wolbachia in sandflies, vectors of Visceral Leishmaniasis in northwest Iran using wsp gene

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Background: Sandflies of Larroussius and Adlerius subgenus were considered as vectors of Visceral Leishmaniasis. Wolbachia for their behavior of Cytoplasmic Incompatibility (CI), parthenogenesis, feminization have been considered in insects and sandflies. Therefore, for the first time, detection of this bacteria in sandflies of the mentioned subgenus has been studied using PCR techniques of Wolbachia surface protein gene (wsp).

Methods: Sandflies collected using sticky paper and CDC traps from Kalybar, Meshkin shahar and Sarab regions. After identifying the sandflies, their abdomens and thoraxes were extracted for DNA. Detection of wsp gene in sand flies were done with primers 691R/81F using PCR techniques.

Results: We found 9.5% Wolbachia infection in sand flies of Larroussius and Adlerius subgenus using Wolbachia surface protein genes. wsp gene were detected only in Phlebotomus kandelakii in Meshgin shar, in Phlebotomus perfiliewi in Sarab and & in major group in Kalybar. wsp gene were detected only chinesis group in Kalybar and Sarab.

Conclusion: Regarding finding natural infection of Wolbachia in sandflies and for their behavior of Cytoplasmic Incompatibility (CI), Wolbachia can be used as a transferring gene in populations of sandflies to control Leishmaniasis.

Minimum inhibitory concentration of colistin against multi-drug resistant Acinetobacter baumannii isolated from a tertiary care hospital in Pakistan

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Background/Introduction: Acinetobacter has emerged as a significant nosocomial pathogen, especially in intensive care units. Increasing incidence of the strains resistant to major groups of antibiotics like carbapenems, glycolcyclines, aminoglycosides and fluoroquinolones have limited the treatment options. Colistin, an older antibiotic, remains sometime only option in the treatment of A.baumannii infections.

Objective: To determine the in vitro efficacy of colistin against MDR A.baumannii isolated from a tertiary care hospital of Pakistan.

Place and duration of study: The study was carried out from September 2009 to February 2010, at the Department of Microbiology, Army Medical College/National University of Sciences and Technology, Rawalpindi, Pakistan.

Materials and Method: Clinical specimens were received from intensive care units and various clinical wards of an 1100 bedded tertiary care hospital of Rawalpindi, Pakistan. Specimens were inoculated on appropriate culture media and incubated at 37°C for 24 hours. Acinetobacter species were identified by using standard microbiological procedures (Gram’s stain appearance, colonial morphology, catalase test, cytochrome oxidase reaction, motility and by using biochemical tests). Identification up to the species level was done by using Analytical Profile index API 20NE (bioMérieux). Susceptibilities of imipenem, meropenem, ciprofloxacin, gentamicin, amikacin and tobramycin were determined by Kirby-Bauer disc diffusion technique. MDR was defined as resistance to aminoglycosides, carbapenems and fluoroquinolones. Minimum inhibitory concentration (MIC) of colistin was performed by using E-strips (AB BioDisk) for each isolate. The MIC results were interpreted according to criteria set by Clinical and Laboratory Standards Institute (CLSI).

Results: A total of fifty MDR A. baumannii were isolated during the study period. Colistin exhibited excellent activity against the isolates. All the MDR A. baumannii were susceptible to colistin (MIC $\leq$2 µg/ml sensitive, $\geq$4 resistant).

Conclusion: MDR A. baumannii associated infections are difficult to treat and colistin provides an effective treatment option against this resistant pathogen.

The effect of reducing missing report of nosocomial infection cases by administrative intervention

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Objective: To research the effect of reducing missing report of nosocomial infection (NI) cases by administrative intervention.

Methods: The clinical data of in-patients were made retrospectively investigation from Jan 2002 to Dec 2007. Since 2005, the measures and administrative intervention were reinforced to propagandize and educate the knowledge of nosocomial infection in order to reduce missing report of NI cases.

Results: A total of 9550 cases were investigated, and 48 cases were missing report of NI ones. The missing report of NI rate were 14.8%, 23%, 14%, 4%, 6.1% and 7%. The cases of missing report of NI were 32 (66.7%) from Jan 2002 to Dec 2004, and 16 (33.3%) from Jan 2005 to Dec 2007. There were significant difference for missing report of NI cases since the measures and administrative intervention were reinforced in 2005. The operation departments were most ones for missing report of NI. The most infection sites were lower respiratory tract, upper respiratory tract infection, skin infection and urinary tract infection.

Conclusion: The measures and administrative intervention should be reinforced in the departments with high missing report of NI rate. It is helpful to reduce the missing report of NI.