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Detection and differentiation of staphylococcus species isolated from poultry and human sources using vitek 2 system

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Staphylococcus species are the most troublesome micro-organisms in poultry industry, because their poses health hazards, risks to consumers and the economy of the country. Since they entail virulence characteristic which plays a role in causing illness to hosts and they also have potential to confer resistance toward different antimicrobial agents. Thus can be transmitted from food producing animals to humans through various factors the major one being food chain. Also the extensive broaden of antibiotic resistance bacteria and its hazardous existence in the last years refereed to the poultry products as transmitter for wide spectrum cluster of food-borne disease. These conditions need for rapid, accurate and sensitive method for detection and identification of Staphylococcus species. Therefore, the current study aimed to investigate the prevalence rates of Staphylococcus species in broiler chicken meat obtained at a farm level, and then identify antimicrobial susceptibility of the isolates using Vitek2 system and hospitalized patient. In this study 100 poultry sample were collected from farms in dissimilar districts in Assiut province, and 100 human samples from hospitalized patient. The result showed that presence of staph species in 35 and 45 in poultry and human samples respectively. The poultry isolates were 10 assigned as coagulase-positive staphylococci (CPS) and 25 as coagulase-negative staphylococci (CNS). Seven samples were identified as methicillin-resistant staphylococci. Whereas 20 human samples assigned as CPS and 25 samples assigned as CNS, 11 samples identified as methicillin-resistant staphylococci. Poultry and human samples showed most resistant for both vancomycin and clindamycin. Whereas trimethoprim/ sulfamethoxazole and gentamicin were the most sensitive among human and poultry samples. It can be concluded that, Vitek2 is rapid, accurate and sensitive method which has significant ability to differentiate among staph species and distinguish its antimicrobial susceptibility which was complicated by conventional method.

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