

The Relationship between MRSA and Some Antiseptic Agents In the Hospital Environment

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ABSTRACT:

Staphylococcus aureus is one of the most infectious bacteria in hospital environment. Such kind of bacteria may be involved in most cross infections. The main source(s) of these bacteria should be determined for control purposes. Swab samples from the floor and hospital equipments, patients, patients close relatives and nurses were tested for the presence of MRSA. The results demonstrated that MRSA in the floor and hospital equipments are significantly more than other sites. To find out the reason of that, further testing for the mutagenic effect of some antiseptics by treating the bacterial strains with sub-lethal doses of some antiseptic materials such as detol, formaldehyde, ethanol and iodine. More than 38% of the antibiotic sensitive *Staphylococcus aureus* strains were converted to resistant strains. Many of these resistant strains were identified and found representing different types of Multiple Resistant *Staphylococcus aureus* (MRSA). This may be referred to the selective pressure that imposed by the antiseptic agents used in the hygienic procedures inside the hospital. Then a screening procedure has been adopted to check the efficiency of the above antiseptics in disinfection methods inside the operation theater (OT), intensive care unit (ICU) and other hospital wards of Al – Hussain and two Maternity Hospitals in Kerbala City. The data showed that the use of two antiseptics such ethanol and iodine is more effective in disinfection process in MRSA control. Therefore, it is recommended to use two antiseptic agents simultaneously in all hygienic disinfection protocols to minimize the chances of resistance to antibiotics among the bacterial strains.