

***The Relationship between
MRSA and Some Antiseptic
Agents***

In the Iraqi Hospitals

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Aims of the Study

- 1- To assess the MRSA spreading in •
Kerbala Hospitals •
- 2-To find out the input source(s) and •
understand their mechanism of •
resistance to antibiotics. •
- 3-To help in adopting an effective control •
measure(s) for hospital hygiene. •

INTRODUCTION

- The resistance to antibiotics is one of the most serious health problems in the treatment of infectious diseases.
- Almost 35% of nosocomial *S.aureus* infections were found resistant to B-lactam antibiotics.
- During the last two decades, the rates of infections with MRSA have been raised rapidly in the Iraqi hospitals.

MRSA & VRE Rates in Ealing Hospital During 10 Years

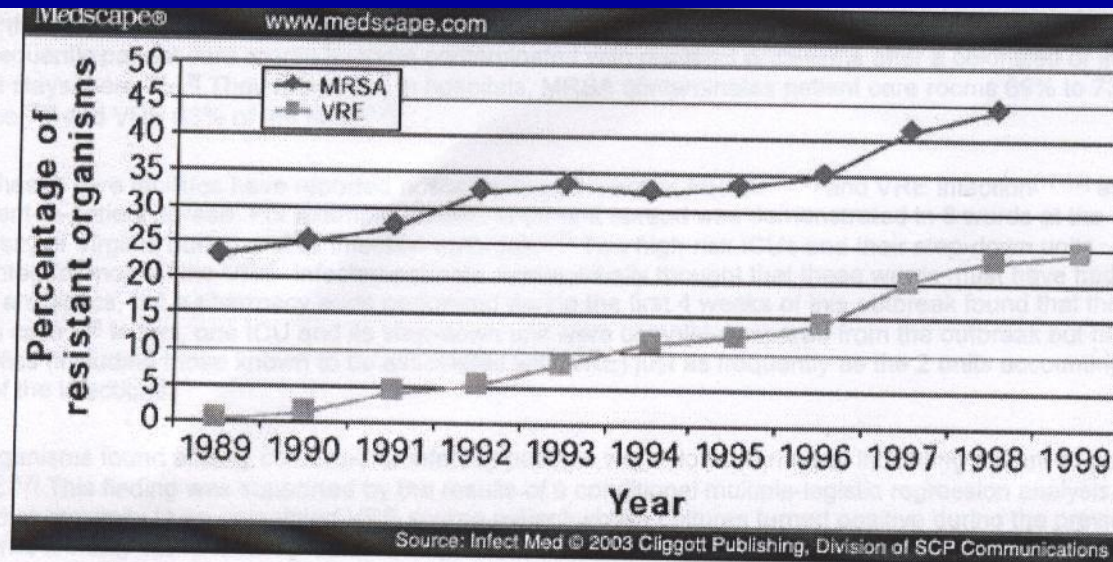


Figure 1. Percentages of *Staphylococcus aureus* and *Enterococcus* isolates reported as resistant

WHY MRSA SHOULD BE STUDIED

- 1- MRSA bacteremia was associated with significantly high mortality rate. •
- 2- MRSA and/or VRE bloodstream infections have been associated with high rates of recurrence. •
- 3- MRSA patients remain in the hospital 8 days longer than patients MSSA. •

MATERIALS & METHODS

- MSSA collected from two Maternity and Al-Hussein hospitals; identified and their susceptibility to some antibiotics was recorded.
- Samples of some antiseptic materials: Detol, Formaldehyde, Chloromxylonel & Iodine were tested for their MIC on the MSSA strains.
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Materials & Methods (cont.)

- A log phase MSSA bacteria were exposed to sub-lethal concentrations of the antiseptics.
- The sensitivity test for the treated strains was done using disk-diffusion method.
- None treated strains were used as negative controls.
- Zones of inhibition were measured.

Disc Diffusion

- Bacterial solution added to agar
- Loaded discs placed onto agar plates
- Inhibition diameters measured after 24h



The future work

The research project is planned to cover the followings: •

1-Determination for the genes which confirm the resistance to the tested antibiotics, i.e. the possible understand for the mechanism change in AB resistance patterns. •

2- Finding out an effective antiseptic(s) that are not enhance mutation to be used in the hospital hygienic procedures. •