Colonization of Methicillin-resistant *Staphylococcus aureus* (MRSA) and History of Hospitalization: how strong do they correlate in ICU Patients?

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**INTRODUCTION**

Methicillin-resistant *Staphylococcus aureus* (MRSA) is one of the Multidrug-resistant organisms (MDRO) which has been quite an endemic in many healthcare facilities, especially in the Intensive Care Units (ICU) of hospitals. History of patients’ hospitalization before ICU admission has been considered to be one of the risk factors for MRSA colonization in patients. Problems arise after knowing that ICU patients with MRSA colonization are at high risk of MRSA infection.

Every year, MRSA prevalence in Indonesia showed significant progressivity. In 1986 the MRSA prevalence was 2.5%, then raised to 9.4% in 1993. In 2006, it went farther to 23.5%. In 2008, a survey conducted in dr. Soetomo Hospital implied there were 34.92% MRSA in wound specimens.

Therefore, we require data of MRSA colonization associated history of patients’ hospitalization before ICU admission in hopes that the incidence of MRSA colonization in Indonesia hospitals can be reduced.

**METHOD**

1. **109 ICU patients, January-August 2011**
2. **Consecutive selection**
3. **Nose, armpit, rectum swabs**
4. **Using CLSI (Central Laboratory Standards International) 2011**
5. **MRSA resistance test**
6. **History of hospitalization**
7. **Chi-squared test analyzing**

**RESULTS & DISCUSSIONS**

There were more patients colonized by MRSA in ICU (55%) than those who weren’t. The high number of potential reservoirs in ICU for MRSA has enhanced its colonization, they were patients, medical devices, and healthcare personnel.

The colonization locations were armpit (21 patients), nose (15 patients), and rectum (1 patient). There were 13 patients who had MRSA colonization in nose and armpit at the same time. Nose and armpit were remain the favored site for MRSA colonization. It was in line with the fact that Community MRSA (c-MRSA) transmission was by skin-to-skin or skin-to-device contact.

**CONCLUSIONS**

- MRSA colonization prevalence in patients of Central ICU RSCM in 2011 was 55%.
- The most favored site of MRSA colonization were armpit and nose.
- There was no significant statistic relationship between MRSA colonization and the history of patients’ hospitalization before ICU admission which suggests colonization also exist in community.

**RECOMMENDATIONS**

- Hospitals should undergo MRSA screening in all of patients admissions.
- MRSA genotyping test in patients with MRSA colonization should be considered, since it is an important procedure to determine the strain of MRSA (CA-MRSA or HA-MRSA).
- Indonesia hospitals should implement comprehensive MRSA prevention and control program.

**REFERENCES**


**ACKNOWLEDGEMENTS & CONTACT**

Thank you to my supervisor Yulia Rosa, my loyal research team Artis, Putra, Arcci, Reiko, Ayu and my school Faculty of Medicine University of Indonesia for funding my participation in this event.

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