Antibiotic Sensitivity of *Staphylococcus aureus* isolate from hospitalized patients in Surabaya Indonesia

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INTRODUCTION

- The excessive and irrational use of antibiotics in community and hospital
- An increase of ESBL and MRSA
- AMR surveillance in January - June 2010
- 4359 bacteria were found; 3115 negative gram and 1244 positive gram bacteria isolates. Among these bacteria, 456 (22%) were ESBL positive isolates and 45 (18%) were MRSA isolates from total of 250 *S.aureus* isolates.

INTRODUCTION

- The surveillance in July - December 2012 : K.pneumoni ESBL(+) 202 (58%) specimens from a total of 351 K.pneumonia specimens and E. coli ESBL(+) 327 (52%) specimens from a total of 629 E.coli specimens.
- 63 (24%) MRSA specimens were obtained from a total of 259 S.aureus specimens while the prevalence of ESBL was (53%).

OBJECTIVES

- To isolate and identify *S.aureus* from clinical specimen of hospitalized patients in several hospital in Surabaya, Indonesia
- To analyze the antibiotic sensitivity of the isolate

METHOD

Specimen collection

- collected from clinical specimens of hospitalized patients in 4 hospital in Surabaya, Indonesia within 1 month

Isolation and identification of *S.aureus*

- Biochemical characterization

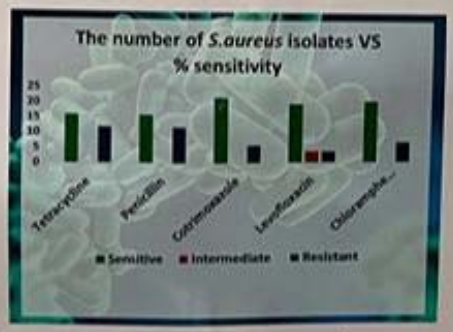
Antibiotic sensitivity test using disc diffusion

- determined for tetracycline, penicillin, cotrimoxazole, levofloxacin, & chloramphenicol according to CLSI guidelines

RESULTS

- 28 *S.aureus* isolates
- The antibiotic sensitivity test showed that the most of isolates were sensitive to cotrimoxazole (n=22; 79%), chloramphenicol (n=21; 75%), and levofloxacin (n=20; 72%), meanwhile there's only 57% (n=16) of isolates were sensitive to tetracycline and penicillin.

Sensitivity	Sensitive	Intermediate	Resistant
	Percentage (%)		
Tetracycline	57 (n=16)		43 (n=12)
Penicillin	57 (n=16)		43 (n=12)
Cotrimoxazole	79 (n=22)		21 (n=6)
Levofloxacin	72 (n=20)	14 (n=4)	14 (n=4)
Chloramphenicol	75 (n=21)		25 (n=7)



SUMMARY

- Based on this study, it can be concluded that the isolates of *S.aureus* from several hospitalized patients in Surabaya, Indonesia were resistant to tetracycline and penicillin.
- However, there is still a need to conduct a long term research study in order to analyze the antibiotic sensitivity pattern.

- **Keywords:** antibiotic, sensitivity, *Staphylococcus aureus*

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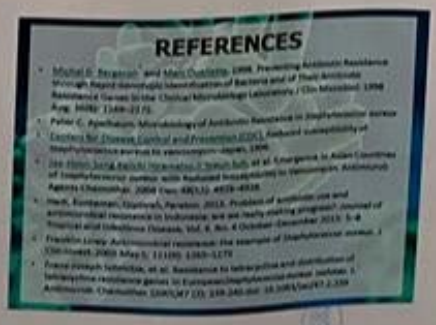

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