

ABSTRAK

DETEKSI *METHICILLIN RESISTANT Staphylococcus aureus* (MRSA) DAN *METHICILLIN RESISTANT Staphylococcus pseudintermedius* (MRSP) ISOLAT ASAL PASIEN KUCING DAN ANJING DI “drh. NUGROHO ANIMAL CENTER SEMARANG”

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Menyebarnya strain *methicillin-resistant Staphylococcus aureus* (MRSA) dan *methicillin-resistant Staphylococcus pseudintermedius* (MRSP) merupakan bentuk resistensi bakteri terhadap antibiotik, terutama antibiotik beta-laktam yang menimbulkan ancaman terhadap kesehatan manusia dan hewan di seluruh dunia. *Staphylococcus aureus* dan *Staphylococcus pseudintermedius* merupakan bakteri yang mengkolonisasi kulit dan mukosa yang dapat menyebabkan infeksi oportunistik pada manusia dan hewan. Tujuan dari penelitian ini adalah mendeteksi MRSA dan MRSP secara fenotipik dengan metode *oxacillin resistance screening agar base* (ORSAB) dan secara genotipik terhadap keberadaan gen *blaZ* dan gen *mecA* dengan teknik *Polymerase Chain Reaction* (PCR).

Penelitian ini menggunakan 22 isolat, yang terdiri atas 18 isolat *S. aureus* dan 4 isolat *S. pseudintermedius* asal pasien kucing dan anjing dari “drh. Nugroho Animal Center Semarang”. Deteksi MRSA dan MRSP dilakukan dengan uji fenotipik menggunakan media ORSAB serta konfirmasi genotipik melalui amplifikasi gen *blaZ* dan gen *mecA* sebagai gen pengkode resistensi antibiotik dengan teknik PCR. Hasil amplifikasi gen dianalisis dengan teknik elektroforesis.

Hasil penelitian menunjukkan bahwa 15 isolat (83,33%) *S. aureus* teridentifikasi sebagai strain MRSA dan 3 isolat (16,67%) *S. aureus* teridentifikasi sebagai strain *methicillin-susceptible Staphylococcus aureus* (MSSA). Sebanyak 3 isolat (75%) *S. pseudintermedius* teridentifikasi sebagai strain MRSP dan 1 isolat (25%) *S. pseudintermedius* teridentifikasi sebagai strain *methicillin-susceptible Staphylococcus pseudintermedius* (MSSP).

Kata kunci: MRSA, MRSP, ORSAB, gen *blaZ*, gen *mecA*

ABSTRACT

DETECTION OF METHICILLIN RESISTANT *Staphylococcus aureus* (MRSA) AND METHICILLIN RESISTANT *Staphylococcus pseudintermedius* (MRSP) ISOLATES FROM CAT AND DOG PATIENTS IN "drh. NUGROHO ANIMAL CENTER SEMARANG"

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The spread of methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-resistant *Staphylococcus pseudintermedius* (MRSP) strains is a form of bacterial resistance to antibiotics, especially beta-lactam antibiotics, which pose a threat to human and animal health worldwide. *Staphylococcus aureus* and *Staphylococcus pseudintermedius* are bacteria that colonize the skin and mucosa that cause opportunistic infections in humans and animals. This study aimed to detect MRSA and MRSP phenotypically using the oxacillin resistance screening agar base (ORSAB) method and genotypically for the presence of the *blaZ* gene and *mecA* gene using the Polymerase Chain Reaction (PCR) technique.

This study used 22 isolates, consisting of 18 *S. aureus* isolates and 4 *S. pseudintermedius* isolates from cat and dog patients from "drh. Nugroho Animal Center Semarang". Detection of MRSA and MRSP was carried out by phenotypic testing using ORSAB media and genotypic confirmation through amplification of the *blaZ* gene and *mecA* gene as genes encoding antibiotic resistance using PCR techniques. Gene amplification results were analyzed using electrophoresis techniques.

The results showed that 15 isolates (83.33%) of *S. aureus* were identified as MRSA strains and 3 isolates (16.67%) of *S. aureus* were identified as methicillin-susceptible *Staphylococcus aureus* (MSSA) strains. A total of 3 isolates (75%) of *S. pseudintermedius* were identified as MRSP strains and 1 isolate (25%) of *S. pseudintermedius* was identified as methicillin-susceptible *Staphylococcus pseudintermedius* (MSSP) strains.

Keywords: MRSA, MRSP, ORSAB, *blaZ* gene, *mecA* gene