

ABSTRAK

PROFIL RESISTENSI ANTIBIOTIK DAN DETEKSI *Methicillin Resistant Staphylococcus aureus* (MRSA) ASAL ISOLAT HEWAN KESAYANGAN DAN SUSU SAPI PERAH

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Staphylococcus aureus merupakan bakteri patogen oportunistik yang dapat menyebabkan berbagai infeksi serius pada manusia maupun hewan. Salah satu strain yang menjadi perhatian adalah *Methicillin Resistant Staphylococcus aureus* (MRSA), yaitu *S. aureus* yang menunjukkan resistensi terhadap antibiotik golongan β -laktam. Penggunaan antibiotik secara luas dalam dunia medis dan veteriner telah berkontribusi terhadap peningkatan angka resistensi antimikroba. Penelitian ini bertujuan untuk mengetahui profil resistensi antibiotik isolat *S. aureus* yang berasal dari hewan kesayangan dan susu sapi perah, serta mengkonfirmasi keberadaan MRSA menggunakan media selektif *Oxacillin Resistance Screening Agar Base* (ORSAB). Sebanyak 15 isolat diuji, terdiri dari 10 isolat asal hewan kesayangan (anjing dan kucing) yang diperoleh dari beberapa klinik hewan di Yogyakarta dan Semarang, serta 5 isolat susu sapi perah dari Boyolali, Jawa Tengah. Uji sensitivitas antibiotik dilakukan dengan metode disk difusi Kirby-Bauer terhadap enam jenis antibiotik, yaitu penisilin G, tetrasiklin, oksasilin, klindamisin, eritromisin, dan sefoksitin. Hasil penelitian menunjukkan bahwa 20% isolat resisten terhadap penisilin G, 13,33% terhadap tetrasiklin, 13,33% terhadap oksasilin, 6,67% terhadap klindamisin, 6,67% terhadap eritromisin, dan 6,67% terhadap sefoksitin. Uji menggunakan media ORSAB mengkonfirmasi bahwa 1 isolat (20%) asal kucing, 3 isolat (60%) asal anjing, dan 3 isolat (60%) asal susu sapi perah menunjukkan resistensi terhadap oksasilin. Hasil ini mengindikasikan adanya potensi keberadaan MRSA pada hewan kesayangan dan produk susu sapi perah, sehingga perlu diwaspadai dalam aspek kesehatan hewan dan kesehatan masyarakat. Hasil penelitian ini diharapkan dapat menjadi referensi untuk upaya pengendalian resistensi antibiotik di bidang veteriner.

Kata kunci: Antibiotik, MRSA, ORSAB, Resistensi

ABSTRACT

ANTIBIOTIC RESISTANCE PROFILE AND *Methicillin Resistant Staphylococcus aureus* (MRSA) DETECTION IN ISOLATES FROM COMPANION ANIMALS AND DAIRY COW MILK

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Staphylococcus aureus is an opportunistic pathogenic bacterium capable of causing various serious infections in both humans and animals. One of its notable strains is *Methicillin Resistant Staphylococcus aureus* (MRSA), which exhibits resistance to β -lactam antibiotics. The widespread and often indiscriminate use of antibiotics in both human and veterinary medicine has contributed to the rising prevalence of antimicrobial resistance. This study aimed to evaluate the antibiotic resistance profile of *S. aureus* isolates obtained from companion animals and raw cow's milk, and to confirm the presence of MRSA using *Oxacillin Resistance Screening Agar Base* (ORSAB) medium. A total of 15 isolates were tested, consisting of 10 isolates from companion animals (dogs and cats) collected from veterinary clinics in Yogyakarta and Semarang, and 5 isolates from dairy cows in Boyolali, Central Java. Antibiotic susceptibility testing was performed using the Kirby-Bauer disk diffusion method against six antibiotics: penicillin G, tetracycline, oxacillin, clindamycin, erythromycin, and cefoxitin. The results showed that 20% of isolates were resistant to penicillin G, 13.33% to tetracycline, 13.33% to oxacillin, 6.67% to clindamycin, 6.67% to erythromycin, and 6.67% to cefoxitin. Furthermore, ORSAB screening confirmed that 1 isolate (20%) from a cat, 3 isolates (60%) from dogs, and 3 isolates (60%) from dairy cow milk exhibited resistance to oxacillin. These findings indicate the presence of MRSA strains in both companion animals and dairy cow milk, posing a potential risk to animal health and public health. The results of this study are expected to serve as a reference for monitoring and controlling antibiotic resistance in veterinary medicine.

Keywords: Antibiotic, MRSA, ORSAB, Resistance