

ABSTRACT

ISOLATION AND IDENTIFICATION OF *Staphylococcus* sp. AND EVALUATION OF RESISTANCE OF *Staphylococcus* sp. TOWARDS SULFAMETHOXAZOLE-TRIMETHOPRIM ON DERMATITIS DOG

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Incidence of antimicrobial resistance skin infections in dogs have continued to be a major problem in the field of veterinary medicine worldwide. The purpose of this research is to isolate and identify *Staphylococcus* sp. on dermatitis dog's skin and to evaluate its resistance towards sulfamethoxazole-trimethoprim (SXT).

A total of 10 dog skin lesions swab samples that were diagnosed as dermatitis from the Animal Clinic of Internal Medicine Department at Faculty of Veterinary Medicine of Universitas Gadjah Mada were inoculated on *Mannitol Salt Agar* (MSA). The bacteria that grew with separated colonies were then tested followed by Gram stain, haemolysis test at blood agar plate and coagulase test. The isolates were then cultured at *Mueller-Hinton Agar* (MHA) and sensitivity test towards SXT 25 µg were carried out with *Kirby Bauer* method.

The result showed that 8 out of 10 samples grew on *Mannitol Salt Agar* (MSA) with circular, cream white colour colonies with regular edges. Gram stain showed that 8 isolates are Gram positive in cluster cocci. The result of haemolysis test showed that 1, 4 and 3 isolates formed α , β and γ hemolysis respectively. Three isolates showed positive coagulation and the other 5 showed negative coagulation for coagulase test. Based on all these characteristics, 8 isolates that grew were identified as *Staphylococcus* sp. The result of sensitivity test showed that 6 (75%) *Staphylococcus* sp. isolates were still sensitive towards SXT and the remaining 2 (25%) *Staphylococcus* sp. isolates were resistant towards SXT. Based on this research, it can be concluded that a total of 8 (80%) out of 10 dog skin lesion swab samples isolated were *Staphylococcus* sp. and most of them are still sensitive towards SXT.

Key words: dog, dermatitis, *Staphylococcus* sp., antibacterial resistance, SXT

ABSTRAK

ISOLASI DAN IDENTIFIKASI *Staphylococcus* sp. DAN EVALUASI RESISTENSI ISOLAT *Staphylococcus* sp. TERHADAP SULFAMETHOXAZOLE-TRIMETHOPRIM PADA ANJING DERMATITIS

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Kasus infeksi kulit resisten terhadap antimikroba menjadi masalah utama di dunia dalam dunia Kedokteran Hewan. Penelitian ini bertujuan untuk isolasi dan identifikasi *Staphylococcus* sp. dari anjing penderita dermatitis, serta mengetahui sensitivitasnya terhadap sulfamethoxazole-trimethoprim (SXT).

Sebanyak 10 sampel swab lesi kulit anjing yang didiagnosis dermatitis yang berasal dari Klinik Hewan Departemen Ilmu Penyakit Dalam FKH UGM dan Klinik Hewan Griya Satwa Lestari diinokulasikan pada *Mannitol Salt Agar* (MSA). Bakteri yang tumbuh diamati morfologi koloni terpisah, dilanjutkan dengan pewarnaan Gram, uji kemampuan hemolisis pada plat agar darah dan uji koagulase. Isolat kemudian dikultur pada *Mueller-Hinton Agar* (MHA) dan dilakukan uji sensitivitas terhadap SXT 25 µg dengan metode *Kirby Bauer*.

Hasil penelitian menunjukkan 8 dari 10 sampel tumbuh pada *Mannitol Salt Agar* (MSA) dengan koloni berbentuk bulat, berwarna putih hingga krem dengan tepi reguler. Pewarnaan Gram menunjukkan bahwa 8 isolat adalah Gram positif berbentuk kokus bergerombol. Hasil uji hemolisis menunjukkan 1 isolat membentuk hemolisis α , 4 sampel hemolisis β dan 3 sampel hemolisis γ . Tiga isolat menunjukkan koagulase positif dan 5 lainnya koagulase negatif. Berdasarkan ciri-ciri tersebut, 8 isolat yang tumbuh diidentifikasi sebagai *Staphylococcus* sp. Hasil uji sensitivitas didapatkan bahwa 6 (75%) isolat *Staphylococcus* sp. masih sensitif terhadap SXT dan 2 (25%) isolat *Staphylococcus* sp. lain telah resisten terhadap SXT. Berdasarkan penelitian ini disimpulkan bahwa sebanyak (80%) 8 dari 10 sampel swab lesi kulit anjing penderita dermatitis dapat diisolasi *Staphylococcus* sp. yang kebanyakan masih sensitif terhadap SXT.

Kata kunci: anjing, dermatitis, *Staphylococcus* sp., resistensi antibakteri, SXT