

ABSTRAK

DETEKSI SECARA FENOTIPIK PATOGEN *Staphylococcus aureus* ISOLAT ASAL KASUS MEDIK VETERINER DAN MANUSIA

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Staphylococcus aureus merupakan patogen oportunistik yang dapat menyebabkan berbagai macam penyakit pada manusia dan hewan seperti mastitis, infeksi subkutan dan kulit purulen, pneumonia, dan penyakit infeksius lain. *Staphylococcus aureus* dapat ditemukan pada kulit, membran mukosa, serta sampel cairan dari penderita penyakit yang disebabkan oleh *Staphylococcus aureus*. *Staphylococcus aureus* dapat bertransmisi antar hewan, antar manusia, dan bersifat zoonosis. Penelitian ini bertujuan untuk melakukan identifikasi dan karakterisasi *Staphylococcus aureus* asal hewan dan manusia.

Isolat *Staphylococcus aureus* asal kasus infeksi hewan kambing dan sapi yang merupakan koleksi isolat Laboratorium Departemen Patologi Klinik Fakultas Kedokteran Hewan UGM serta asal kasus infeksi manusia yang didapatkan dari Laboratorium Patologi Klinik RSUP Dr. Sardjito dan Laboratorium Mikrobiologi Universitas Andalas dilakukan identifikasi dan karakterisasi. Rangkaian uji yang dilakukan pada penelitian ini yaitu uji hemolisis pada plat agar darah (PAD), pewarnaan Gram, penanaman pada *Mannitol Salt Agar* (MSA) dan *Triple Sugar Iron Agar* (TSIA), uji katalase, uji koagulase, uji *Methyl Red* (MR), dan uji *Voges-Proskauer* (VP).

Hasil menunjukkan bahwa seluruh isolat bersifat Gram positif, positif pada uji katalase, uji MR, uji VP, serta bersifat fermentatif pada media MSA dan TSIA. Berdasarkan produksi hemolisinnya, pada isolat asal hewan sebanyak 6 isolat (60%) memiliki sifat β -hemolisis dan 4 isolat (40%) bersifat γ -hemolisis. Pada isolat asal manusia, sebanyak 4 isolat (40%) memiliki sifat β -hemolisis dan 6 isolat (60%) bersifat γ -hemolisis. Berdasarkan kemampuan memproduksi koagulase, pada isolat asal hewan sebanyak 8 isolat (80%) dapat memproduksi koagulase dan 2 isolat (20%) tidak dapat memproduksi koagulase. Pada isolat asal manusia, seluruh isolat (100%) dapat memproduksi koagulase. Berdasarkan hasil identifikasi dan karakterisasi tersebut dapat disimpulkan bahwa isolat yang berasal dari hewan sapi dan kambing serta yang berasal dari manusia memiliki karakter yang sama.

Kata kunci: *Staphylococcus aureus*, identifikasi, karakterisasi, infeksi sapi, infeksi kambing, infeksi manusia.

ABSTRACT

PHENOTYPIC DETECTION OF *Staphylococcus aureus* PATHOGEN ISOLATED FROM VETERINARY AND HUMAN MEDICAL CASES

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Staphylococcus aureus is an opportunistic pathogen that can cause various diseases in humans and animals like mastitis, purulent subcutaneous and skin infection, and other infectious diseases. *Staphylococcus aureus* can be found in skin, mucous membrane, and other fluid samples from a patient infected by diseases affected by *Staphylococcus aureus*. *Staphylococcus aureus* can be transmitted between animals and humans and act as zoonoses. This study aimed to identify and characterize *Staphylococcus aureus* in animal and human infection cases.

Staphylococcus aureus isolates from cow and goat infection cases were obtained from Clinical Pathology Department Veterinary Medicine Faculty UGM also isolates from human infection cases were obtained from Dr. Sardjito General Hospital Clinical Pathology Laboratory and Andalas University Microbiology Laboratory were identified and characterized. A series of tests were conducted in this study which is hemolysis test on blood agar, Gram staining, inoculation in Mannitol Salt Agar (MSA) and Triple Sugar Iron Agar (TSIA), catalase test, coagulase test, Methyl Red (MR) test, and Voges-Proskauer (VP) test.

The results showed that all isolates were Gram-positive, positive for catalase, MR test, VP test, and fermentative in MSA and TSIA media. Based on hemolysin production, 6 isolates (60%) from animal infection cases had β -hemolysis properties and 4 isolates (40%) had γ -hemolysis properties. From human infection cases, 4 isolates (40%) had β -hemolysis properties and 6 isolates (60%) had γ -hemolysis properties. Based on coagulase production activity, 8 isolates (80%) from animal infection cases produced coagulase and 2 isolates (20%) could not produce coagulase, meanwhile, all isolates (100%) from human infection cases produced coagulase. Based on identification and characterization results, it could be concluded that *Staphylococcus aureus* characters from cow and goat infection cases and human infection cases were had a similar character.

Keywords: *Staphylococcus aureus*, identification, characterization, cow infection, goat infection, human infection