

ABSTRAK

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Deteksi Gen Toksin *Panton-Valentine Leukocidin* (PVL) pada *Methicillin Sensitive Staphylococcus aureus* (MSSA) dari Isolat Pasien dengan Ulkus Diabetikum.

51 Halaman + 8 Tabel + 10 Lampiran

Latar Belakang: Ulkus diabetikum merupakan salah satu komplikasi kronis diabetes melitus yang berisiko tinggi mengalami infeksi dan amputasi.. *Staphylococcus aureus* merupakan patogen utama yang banyak ditemukan pada luka ulkus diabetikum, termasuk *Methicillin Sensitive Staphylococcus aureus* (MSSA). Salah satu faktor virulensi penting dari MSSA adalah gen *Panton-Valentine Leukocidin* (PVL), yang berperan dalam merusak sel leukosit dan memicu nekrosis jaringan. **Tujuan:** Penelitian ini bertujuan untuk mendeteksi keberadaan gen PVL pada isolat MSSA dari pasien dengan ulkus diabetikum. Penelitian ini merupakan studi deskriptif yang dilakukan di Laboratorium Bakteriologi dan Biologi Molekuler Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya pada bulan Februari hingga Mei 2025. **Metode:** Sampel berupa swab ulkus diabetikum yang diisolasi dan diidentifikasi sebagai MSSA melalui uji fenotipik dan uji sensitivitas antibiotik menggunakan cakram cefoxitin. Deteksi gen PVL dilakukan secara molekuler dengan metode *Polymerase Chain Reaction* (PCR) konvensional menggunakan primer spesifik LukS-PV dan LukF-PV. **Hasil:** Hasil penelitian menunjukkan bahwa dari total 30 sampel yang diteliti terdapat 18 sampel (60%) yang teridentifikasi *Staphylococcus aureus*. Dari 18 sampel tersebut terdapat 8 sampel (44%) yang termasuk MSSA, dan dari 8 sampel isolat MSSA yang dideteksi gen PVL diperoleh hasil negative (0%) pada semua sampel. **Kesimpulan:** Berdasarkan hasil penelitian yang dilakukan dapat disimpulkan bahwa 8 isolat MSSA yang diambil dari swab pasien dengan ulkus diabetikum negatif tidak membawa gen PVL.

Kata Kunci: Ulkus Diabetikum, *Staphylococcus aureus*, MSSA, Gen PVL

ABSTRACT

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Detection of the Pantone-Valentine Leukocidin (PVL) Toxin Gene in Methicillin-Sensitive Staphylococcus aureus (MSSA) Isolated from Diabetic Foot Ulcer Patients.

51 Pages + 8 Tables + 10 Appendices

Background: Diabetic foot ulcers are one of the chronic complications of diabetes mellitus and are highly susceptible to infection and amputation. Staphylococcus aureus is a major pathogen frequently identified in diabetic ulcer wounds, including the Methicillin Sensitive Staphylococcus aureus (MSSA). One of the critical virulence factors of MSSA is the Pantone-Valentine Leukocidin (PVL) gene, which contributes to leukocyte destruction and tissue necrosis. **Objective:** This study aimed to detect the presence of the PVL gene in MSSA isolates obtained from diabetic ulcer patients. **Methods:** This descriptive study was conducted at the Bacteriology and Molecular Biology Laboratory, Department of Medical Laboratory Technology, Poltekkes Kemenkes Surabaya, between February and May 2025. Samples were obtained from diabetic ulcer swabs, which were then cultured and phenotypically identified as MSSA through standard microbiological procedures and antibiotic susceptibility testing using cefoxitin disc diffusion. The presence of the PVL gene was assessed using conventional Polymerase Chain Reaction (PCR) with specific primers targeting lukS-PV and lukF-PV. **Results:** Of the 30 clinical samples examined, 18 (60%) were confirmed as Staphylococcus aureus. Among these, 8 isolates (44%) were identified as MSSA. Molecular analysis showed that none of the 8 MSSA isolates carried the PVL gene (0%). **Conclusion:** Based on the findings, it can be concluded that the MSSA isolates obtained from diabetic ulcer patients in this study did not carry the PVL gene.

Keywords: Diabetic foot ulcers, Staphylococcus aureus, MSSA, PVL gene.