

INTISARI

Infeksi nosokomial merupakan infeksi yang paling sering terjadi di klinik dan rumah sakit, infeksi nosokomial di Indonesia mencapai 9%. Infeksi ini terjadi karena adanya penyebaran bakteri melalui aerosol, seperti *Staphylococcus aureus*, dimana bakteri tersebut mudah terbawa aerosol terlebih di lingkungan yang berdesakan dan memiliki kontaminasi mikrobiologi yang tinggi. Aerosol dapat terbentuk dari banyak prosedur kedokteran gigi, salah satunya odontektomi. Penelitian ini bertujuan untuk mengetahui penyebaran dari bakteri *Staphylococcus aureus* pada ruang poli residen bedah mulut dan maksilofasial RSGM UGM Prof. Soedomo.

Penelitian ini menggunakan 45 sampel dan 5 prosedur odontektomi, yang terbagi menjadi 9 sampel di setiap prosedur dengan 3 titik (dada pasien, tray instrumen, meja kayu) peletakan pelat, masing-masing pelat dibuka selama 1 menit secara bergantian. Dari sampel setiap pasien diambil 1 koloni yang memiliki morfologi *Staphylococcus aureus* dan masing-masing titik memiliki perwakilan koloni. Setelah dilakukan pengujian dari tes KOH, pewarnaan gram, katalase, oksidase, urea, mannitol, dan Voges-Proskauer. Didapatkan 5 sampel terpilih dan dilakukan uji sensitivitas.

Rerata jumlah *Colony Forming Unit* (CFU) memiliki nilai yang konsisten di masing-masing titik, kecuali sampel 3 dimana terjadi kontaminasi selama inkubasi. Rerata nilai dari uji sensitivitas antibiotik terhadap isolat bakteri juga menunjukkan hasil yang konsisten, dan dilakukan tes normalitas (Shapiro-Wilk) menunjukkan hasil menunjukkan hasil yang signifikan pada antibiotik amoksisilin ($p > 0.05$), tetapi pada antibiotik klindamisin tidak mendapat hasil signifikan ($p < 0.05$), kemudian dilakukan tes parametrik (2 Way Anova) dimana hasil menunjukkan adanya perbedaan signifikan antara kelompok uji dan kelompok kontrol, dan interaksi antar jenis antibiotik, akan tetapi interaksi kelompok uji dan kelompok antibiotik hanya mendekati signifikan. Dan terakhir dilakukan uji non-parametrik (Mann-Whitney U Test) dimana hasil tes menunjukkan bahwa kelompok uji dan kelompok antibiotik menunjukkan perbedaan yang signifikan.

Kata kunci: *Staphylococcus aureus*, Odontektomi, Uji Sensitivitas Antibiotik

ABSTRACT

Nosocomial infections are the most common infections occurring in clinics and hospitals, with a prevalence of 9% in Indonesia. These infections are caused by the spread of bacteria through aerosols, such as *Staphylococcus aureus*, which can easily be carried by aerosols—especially in crowded environments with high levels of microbiological contamination. Aerosols can be generated during many dental procedures, one of which is odontectomy. This study aims to examine the spread of *Staphylococcus aureus* bacteria in the oral and maxillofacial surgery resident clinic at RSGM UGM Prof. Soedomo.

This study involved 45 samples across five odontectomy procedures. Each procedure included nine samples, with culture plates placed at three specific locations: the patient's chest, the instrument tray, and a wooden table. Each plate was exposed for one minute in rotation. From each patient's sample, one bacterial colony exhibiting *Staphylococcus aureus* morphology was selected, ensuring representation from each location. The isolates underwent a series of identification tests, including KOH, Gram staining, catalase, oxidase, urea, mannitol, and Voges-Proskauer tests. Five isolates were ultimately chosen for antibiotic sensitivity testing. The average Colony Forming Unit (CFU) counts were generally consistent across all sample points, with the exception of Sample 3, which showed contamination during incubation.

Antibiotic sensitivity tests also revealed stable average inhibition zone values across samples. A Shapiro-Wilk normality test indicated that the data for amoxicillin met the assumption of normality ($p > 0.05$), while data for clindamycin did not ($p < 0.05$). This was followed by a two-way ANOVA, which identified significant differences between the test and control groups, as well as between antibiotic types. The interaction between group and antibiotic type was near-significant but did not meet the threshold. Finally, a Mann-Whitney U test confirmed that the differences between both treatment groups and antibiotic types were statistically significant.

Keywords: *Staphylococcus aureus*, odontectomy, antibiotic sensitivity test