Analisis Hubungan Derajat Pleomorfisme Nuklear, Jumlah Mitosis, dan Tingkat Infiltrasi Limfoplasmasitik terhadap Derajat Diferensiasi Karsinoma Sel Skuamosa Rongga Mulut = Analisis Hubungan Derajat Pleomorfisme Nuklear, Jumlah Mitosis, dan Tingkat Infiltrasi Limfoplasmasitik terhadap Derajat Diferensiasi Karsinoma Sel Skuamosa Rongga Mulut = Analysis of the Relationship between the Degree of Nuclear Pleomorphism, the Number of Mitoses, and the Level of Lymphoplasmacytic Infiltration with the Degree of Differentiation of Oral Cavity Squamous Cell Carcinoma.

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Abstrak

Latar Belakang : Karsinoma sel skuamosa rongga mulut (KSSRM) memiliki insidensi yang cukup tinggi di Indonesia. KSSRM memiliki faktor risiko yang sangat beragam, di antaranya konsumsi produk tembakau, kebiasaan minum minuman beralkohol, konsumsi areca nut, faktor genetik, lokasi tumor, jenis kelamin, dan usia. Biopsi dan pemeriksaan histopatologis dengan pewarnaan hematoxylin-eosin masih menjadi gold standard dalam diagnosis definitif KSSRM. Derajat diferensiasi KSSRM umum digunakan sebagai kriteria untuk mengklasifikasi keparahan jaringan kanker. Namun, diperlukan gambaran histopatologis lain yang dapat digunakan untuk menentukan derajat diferensiasi KSSRM. Pleomorfisme nuklear mengacu pada variasi ukuran dan bentuk inti sel. Peningkatan pleomorfisme nuklear telah diasosiasikan dengan peningkatan keganasan dan metastasis kanker. Jumlah mitosis atau jumlah sel yang sedang mengalami pembelahan, telah dihubungkan dengan keganasan, prognosis yang buruk, dan metastasis pada KSSRM. Infiltrasi limfoplasmasitik didefinisikan sebagai fenomena invasi sel-sel inflamasi seperti limfosit dan plasma pada daerah peritumoral sebagai respons imun tubuh terhadap sel kanker. Penurunan infiltrasi limfoplasmasitik telah diamati memiliki hubungan dengan terjadinya metastasis nodus limfa, rekurensi, dan prognosis yang buruk. Analisis hubungan derajat pleomorfisme nuklear, jumlah mitosis, dan tingkat infiltrasi limfoplasmasitik perlu dilakukan untuk menyusun strategi perawatan yang lebih komprehensif sesuai dengan karakteristik derajat pleomorfisme nuklear, jumlah mitosis, dan tingkat infiltrasi limfoplasmasitik pasien. Tujuan : Penelitian ini bertujuan untuk menganalisis tingkat keparahan KSSRM berdasarkan derajat pleomorfisme nuklear, jumlah mitosis, dan tingkat infiltrasi limfoplasmasitiknya. Metode : Penelitian deskriptif analitik menggunakan sampel jaringan KSSRM yang diberi pewarnaan hematoxylin-eosin. Sampel tersebut diamati menggunakan mikroskop cahaya. Hasil : Derajat pleomorfisme nuklear dan jumlah mitosis memiliki hubungan yang bermakna ($p<0,05$) dengan derajat diferensiasi KSSRM. Hasil yang berkorelasi positif terhadap derajat diferensiasi KSSRM juga teramati pada derajat pleomorfisme nuklear ($r=0,584$) dan jumlah mitosis ($r=0,675$). Belum ditemukan hubungan bermakna ($p>0,05$) antara tingkat infiltrasi limfoplasmasitik dan derajat diferensiasi KSSRM. Belum ditemukan pula hubungan yang bermakna antara lokasi tumor, jenis kelamin, dan usia terhadap derajat diferensiasi KSSRM. Kesimpulan : Ditemukan hubungan antara derajat pleomorfisme nuklear dan jumlah mitosis terhadap derajat diferensiasi KSSRM. Sehingga, makin tingginya derajat pleomorfisme nuklear dan jumlah mitosis akan memperburuk derajat diferensiasi KSSRM. Namun, belum ditemukan hubungan antara tingkat infiltrasi

limfoplasmasitik dengan derajat diferensiasi KSSRM. Hubungan bermakna juga belum ditemukan antara lokasi tumor, jenis kelamin, dan usia terhadap derajat diferensiasi KSSRM.
.....Indonesia. OSCC has various risk factors, including tobacco use, alcohol consumption, areca nut use, genetic factor, tumor location, gender, and age. Biopsy and histopathological examination with hematoxylin-eosin staining remain the gold standard for diagnosing OSCC. Thus, the histopathological evaluation of OSCC is critical for determining prognosis and appropriate management. The degree of differentiation of OSCC is commonly used as a criterion for classifying the severity of cancer tissue. However, other histopathological features are needed to determine the degree of differentiation in OSCC. Nuclear pleomorphism refers to variations in the size and shape of cell nuclei. Increased nuclear pleomorphism has been associated with higher malignancy and cancer metastasis. The number of mitoses, reflecting the number of cells undergoing division, has been linked to malignancy, poor prognosis, and metastasis in OSCC cases. Lymphoplasmacytic infiltration is defined as invasion by inflammatory cells such as lymphocytes and plasma cells as part of the body's immune response to cancer cells. A decrease in lymphoplasmacytic infiltration has been observed to correlate with lymph node metastasis, recurrence, and poor prognosis. Analyzing the relationship between the degree of nuclear pleomorphism, the number of mitosis, and the level of lymphoplasmacytic infiltration is necessary to develop more comprehensive treatment strategies tailored to the characteristics of nuclear pleomorphism, mitotic count, and lymphoplasmacytic infiltration in OSCC patients. Objective: This study aims to analyze the severity of OSCC based on the degree of nuclear pleomorphism, number of mitosis, and the level of lymphoplasmacytic infiltration. Methods: A descriptive-analytical study was conducted using OSCC tissue samples stained with hematoxylin-eosin. These samples were observed under a light microscope. Results: The degree of nuclear pleomorphism and mitotic count showed a significant relationship ($p<0.05$) with the OSCC degree of differentiation. Positive correlations for nuclear pleomorphism ($r=0.584$) and mitotic count ($r=0.675$) with OSCC degree of differentiation. No significant relationship was found ($p>0,05$) between the level of lymphoplasmacytic infiltration and the OSCC degree of differentiation. Additionally, no significant associations were found between tumor location, gender, and age with the OSCC degree of differentiation. Conclusion: An association was found between the degree of nuclear pleomorphism and number of mitosis with the OSCC degree of differentiation. Thus, higher degree of nuclear pleomorphism and number of mitosis worsen the OSCC degree of differentiation. However, no significant relationship was observed between the level of lymphoplasmacytic infiltration and the OSCC degree of differentiation. Similarly, no significant associations were found between tumor location, gender, and age with the OSCC degree of differentiation.