

INTISARI

Latar Belakang: Karsinoma sel skuamosa sinonasal merupakan keganasan kepala dan leher tertinggi kedua di Asia dengan tingkat ketahanan hidup 5 tahun sekitar 54,5%. Gangguan apoptosis diyakini berperan dalam patogenesis kanker ini, yang dimediasi oleh protein penghambat apoptosis seperti livin dan XIAP, serta mutasi pada gen p53 dan ekspresi miRNA-198.

Tujuan: Menilai peran ekspresi livin, p53, mRNA XIAP, dan miRNA-198 sebagai faktor prognosis dan prediktif terapi pada karsinoma sel skuamosa sinonasal terhadap *overall survival*.

Metode: Penelitian observasional analitik dengan desain kohort retrospektif dilakukan terhadap pasien karsinoma sel skuamosa sinonasal yang terdiagnosis melalui histopatologi di RSUP Dr. Sardjito Yogyakarta periode Januari 2017–Desember 2022. Ekspresi livin dan p53 dinilai menggunakan imunohistokimia, sedangkan mRNA XIAP dan miRNA-198 melalui qRT-PCR. Variabel ini dikorelasikan dengan tipe histopatologi, stadium, serta *overall survival*. Analisis statistik menggunakan uji Chi-square, regresi Cox, dan Kaplan-Meier.

Hasil: Dari 44 pasien, mayoritas berusia <65 tahun (65,9%), laki-laki (61,4%), dan tidak memiliki sindrom metabolik (90,9%). Tipe histopatologi non-keratin ditemukan pada 72,7% dan stadium lanjut pada 90,9%. Ekspresi livin positif pada 52,3% pasien dan p53 negatif pada 86,4%. Ekspresi mRNA XIAP dan miRNA-198 yang tinggi ditemukan pada lebih dari separuh sampel. Ekspresi livin berkorelasi dengan tipe histopatologi, dan p53 dengan *overall survival*. Tidak ditemukan hubungan signifikan untuk mRNA XIAP dan miRNA-198. Kaplan-Meier menunjukkan tidak ada perbedaan *overall survival* yang signifikan secara statistik antar kelompok ekspresi biomarker manapun.

Kesimpulan: Ekspresi livin dan p53 berpotensi sebagai faktor prognostik pada *overall survival* pasien karsinoma sel skuamosa sinonasal.

Kata kunci: Livin, mRNA XIAP, miRNA-198, p53, Karsinoma Sel Skuamosa Sinonasal.

ABSTRACT

Background: Sinonasal squamous cell carcinoma (SSCC) is the second most common head and neck malignancy in Asia, with a 5-year survival rate of approximately 54.5%. Disruption of apoptosis is believed to play a key role in cancer development, involving inhibitors of apoptosis proteins (IAPs) such as livin and mRNA XIAP, as well as mutations in the p53 gene and altered miRNA-198 expression.

Objective: To evaluate the role of livin, p53, mRNA XIAP, and miRNA-198 expression as prognostic and predictive factors in sinonasal squamous cell carcinoma.

Methods: This was an observational analytic study with a retrospective cohort design, involving SSCC patients diagnosed via histopathological examination at Dr. Sardjito General Hospital, Yogyakarta, from January 2017 to December 2022. Livin and p53 expressions were assessed using immunohistochemistry, while mRNA XIAP and miRNA-198 were evaluated by quantitative reverse transcription PCR (qRT-PCR). These variables were correlated with histopathological type, cancer stage, overall survival. Statistical analyses included Chi-square test, Cox regression, and Kaplan-Meier analysis.

Results: A total of 44 patients were included, mostly aged <65 years (65.9%), male (61.4%), and without metabolic syndrome (90.9%). Non-keratinizing histological type was found in 72.7%, and advanced-stage cancer in 90.9%. Positive livin expression was observed in 52.3%, and negative p53 in 86.4%, while high mRNA XIAP and miRNA-198 expression were found in over half of the patients. Livin expression significantly correlated with histopathological type, and p53 with patient outcomes. No significant associations were found for mRNA XIAP and miRNA-198. Kaplan-Meier analysis showed no statistically significant differences in overall survival among the biomarker expression groups.

Conclusion: Livin and p53 expression may serve as prognostic markers in overall survival sinonasal squamous cell carcinoma patients.

Keywords: Livin, mRNA XIAP, miRNA-198, p53, Sinonasal Squamous Cell Carcinoma.