

HUBUNGAN ANTARA *TUMOR INFILTRATING LYMPHOCYTES* (TIL) DENGAN RESPON TERAPI PASIEN KARSINOMA NASOFARING

INTISARI

Pendahuluan: Karsinoma nasofaring merupakan keganasan kepala leher tersering, meliputi hampir 60% keganasan di area kepala leher. Respon imun terhadap tumor memainkan peran penting dalam perkembangan berbagai keganasan, termasuk karsinoma nasofaring. *Tumor infiltrating lymphocytes* (TIL) adalah infiltrasi limfosit pada jaringan tumoral yang umumnya menandakan respon imun anti kanker. TIL dianggap sebagai manifestasi dari respon imun pejamu terhadap sel kanker dan memiliki potensi sebagai parameter prognostik

Tujuan: Untuk mengetahui hubungan antara *tumor infiltrating lymphocyte* (TIL) dengan respon terapi pasien karsinoma nasofaring.

Metode: Penelitian ini merupakan penelitian analitik observasional dengan rancangan penelitian *cohort retrospective*. Variabel bebas adalah nilai TIL sebelum terapi sedangkan variabel terikat adalah respon terapi pasien karsinoma nasofaring. Analisis bivariat menggunakan *uji chi square*, dan analisis multivariat menggunakan *uji regresi logistik*. Analisis statistik dilakukan dengan nilai signifikansi $p < 0,05$ dan interval kepercayaan (IK) 95%.

Hasil: Subjek penelitian meliputi 112 pasien karsinoma nasofaring. Mayoritas pasien adalah laki-laki (84%), usia ≤ 50 tahun (52,68%), stadium IVA (41,07%), nilai TIL tinggi (58,93%) dan respon terapi *complete* (70,54%). Terdapat hubungan signifikan antara TIL dan respon terapi karsinoma nasofaring ($p = 0,022$), dimana dimana pasien dengan TIL rendah memiliki peluang mengalami respon terapi *uncomplete* sebesar 1,9 kali dibandingkan pasien dengan TIL tinggi (IK 95% = 1,092 – 3,473). Analisis multivariat menunjukkan bahwa secara simultan, TIL rendah ($p = 0,024$, IK 95% = 1,141 – 6,631) dan stadium IVB ($p = 0,042$, IK 95% = 1,103 – 232,810) merupakan faktor risiko yang secara signifikan mempengaruhi respon terapi *uncomplete* pada pasien karsinoma nasofaring

Kesimpulan: Terdapat hubungan yang signifikan antara TIL dan respon terapi pada pasien karsinoma nasofaring.

Kata Kunci : karsinoma nasofaring, *tumor infiltrating lymphocyte*, respon terapi

ASSOCIATION BETWEEN TUMOR INFILTRATING LYMPHOCYTES (TIL) AND TREATMENT RESPONSE IN NASOPHARYNGEAL CARCINOMA PATIENTS

ABSTRACT

Background: Nasopharyngeal carcinoma is the most common malignancy of the head and neck, accounting for nearly 60% of malignancies in the head and neck area. Immune response to tumors plays a crucial role in the development of various malignancies, including nasopharyngeal carcinoma. Tumor infiltrating lymphocytes (TIL) represent the infiltration of lymphocytes within tumor tissue, which generally indicate an anti-cancer immune response. TILs are considered as a manifestation of the host immune response to cancer cells and have the potential as prognostic parameters.

Objective: To determine the association between tumor infiltrating lymphocytes (TIL) and treatment response in nasopharyngeal carcinoma patients.

Methods: This study was an observational analytic study with a retrospective cohort research design. The independent variable was the TIL value before therapy, while the dependent variable was the treatment response of nasopharyngeal carcinoma patients. Bivariate analysis was performed using the chi-square test, and multivariate analysis was performed using logistic regression. Statistical analysis was conducted with a significance value of $p < 0.05$ and a 95% confidence interval (CI).

Results: The study encompassed 112 patients diagnosed with nasopharyngeal carcinoma. The majority of these patients were male (84%), aged ≤ 50 years (52.68%), predominantly at stage IVA (41.07%), exhibiting high TIL values (58.93%), and showcasing complete therapy response (70.54%). A noteworthy association between TIL and treatment response in nasopharyngeal carcinoma was identified ($p = 0.022$), revealing that patients with low TIL had a 1.9 times higher chance of experiencing incomplete treatment response compared to patients with high TIL (95% CI=1.092 - 3.473). Multivariate analysis showed that simultaneously, low TIL ($p = 0.024$, 95% CI = 1.141 - 6.631) and stage IVB ($p = 0.042$, 95% CI = 1.103 - 232.810) were significant risk factors affecting incomplete treatment response in nasopharyngeal carcinoma patients.

Conclusion: A notable association was established between TIL and therapeutic response among patients diagnosed with nasopharyngeal carcinoma

Keywords: nasopharyngeal carcinoma, tumor infiltrating lymphocyte, treatment response