

KARAKTERISTIK METASTASIS LIMFONODI SERVIKAL BERDASARKAN PEMERIKSAAN CT SCAN SEBAGAI PREDIKTOR KESINTASAN PASIEN KANKER NASOFARING

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ABSTRAK

Latar Belakang: Kanker nasofaring memiliki kecenderungan kuat bermetastasis ke limfonodi servikal dan keterlibatan limfonodi merupakan komponen sentral sistem TNM. Berbagai penelitian menunjukkan bahwa karakteristik limfonodi pada CT *scan* memiliki nilai prognostik, tetapi parameter yang paling relevan masih belum konsisten. Penelitian ini bertujuan menilai karakteristik metastasis limfonodi servikal berdasarkan CT scan sebagai prediktor kesintasan dua tahun pada pasien kanker nasofaring, yaitu *overall survival* (OS) dan *progression-free survival* (PFS).

Metode: Penelitian ini merupakan kohort retrospektif pada pasien kanker nasofaring yang menjalani CT *scan* nasofaring awal dan terapi kuratif di rumah sakit rujukan tersier. Berbagai karakteristik limfonodi dievaluasi, meliputi diameter *short axis*, jumlah limfonodi metastatik, keterlibatan multilevel dan level IV/V/supraklavikula, nekrosis sentral, serta *extracapsular spread* (ECS). Data klinis dasar dan terapi dikumpulkan dari rekam medis. Analisis Kaplan-Meier digunakan untuk menilai OS dan PFS dua tahun, kemudian variabel bermakna dimasukkan ke model *Cox regression hazard*.

Hasil: Sebanyak 160 pasien dianalisis. Usia, IMT, jenis kelamin, komorbid, klasifikasi T dan N, serta histopatologi tidak berhubungan signifikan dengan mortalitas maupun progresivitas dua tahun. Pada analisis bivariat, diameter *short axis* ≥ 10 mm, jumlah limfonodi > 5 , ECS, keterlibatan multilevel, serta metastasis level IV/V/supraklavikula berhubungan dengan penurunan OS dan PFS dua tahun ($p < 0,001$). Analisis *Cox* menunjukkan bahwa jumlah limfonodi > 5 (Adj-HR 12,156), nekrosis sentral (Adj-HR 42,074), dan ECS (Adj-HR 9,757) merupakan prediktor independen mortalitas dua tahun, sedangkan hanya ECS (Adj-HR 13,794) yang menjadi prediktor independen PFS dua tahun.

Kesimpulan: Karakteristik metastasis limfonodi servikal berbasis CT *scan* merupakan prediktor kuat dan independen kesintasan dua tahun pada kanker nasofaring, khususnya parameter jumlah limfonodi metastatik > 5 , nekrosis sentral, dan ECS.

Kata Kunci: karsinoma nasofaring; metastasis limfonodi servikal; prognosis; *overall survival*; *progression-free survival*

CHARACTERISTICS OF CERVICAL LYMPHONODE METASTASIS BASED ON CT SCAN EXAMINATION AS A PREDICTOR OF SURVIVAL IN NASOPHARYNGEAL CANCER PATIENTS

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ABSTRACT

Background: Nasopharyngeal cancer has a strong tendency to metastasize to cervical lymph nodes, and lymph node involvement is a central component of the TNM staging system. Several studies have shown that lymph node characteristics on CT scans have prognostic value, but the most relevant parameters remain inconsistent. This study aimed to assess the characteristics of cervical lymph node metastases based on CT scans as predictors of two-year survival in nasopharyngeal cancer patients, namely overall survival (OS) and progression-free survival (PFS).

Methods: This was a retrospective cohort study of nasopharyngeal cancer patients who underwent initial nasopharyngeal CT scans and curative therapy at a tertiary referral hospital. Various lymph node characteristics were evaluated, including short-axis diameter, number of metastatic lymph nodes, multilevel involvement and levels IV/V/supraclavicular involvement, central necrosis, and extracapsular spread (ECS). Baseline clinical and treatment data were collected from medical records. Kaplan-Meier analysis was used to assess two-year OS and PFS, and significant variables were then entered into a Cox regression hazard model.

Results: A total of 160 patients were analyzed. Age, BMI, sex, comorbidities, T and N classification, and histopathology were not significantly associated with two-year mortality or progression. In bivariate analysis, short axis diameter ≥ 10 mm, lymph node count > 5 , ECS, multilevel involvement, and level IV/V/supraclavicular metastases were associated with decreased OS and 2-year PFS ($p < 0.001$). Cox analysis showed that lymph node count > 5 (Adj-HR 12.156), central necrosis (Adj-HR 42.074), and ECS (Adj-HR 9.757) were independent predictors of 2-year mortality, while only ECS (Adj-HR 13.794) was an independent predictor of 2-year PFS.

Conclusion: CT scan-based characteristics of cervical lymph node metastases are strong and independent predictors of 2-year survival in nasopharyngeal cancer, particularly the number of metastatic lymph nodes > 5 , central necrosis, and ECS.

Keywords: nasopharyngeal cancer; cervical lymph node metastasis; prognosis; survival overalls; progression-free survival