The sensitivity and specificity of a new scoring system using high resolution computed tomography to diagnose lung cancer

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Abstrak

Tujuan Mendapatkan metode diagnostik kanker paru dengan cara tidak invasif dengan HRCT sistem skoring yang setara dengan pemeriksaa Patologi Anatomik. Metode Penelitian dilakukan dari Desember 2006 sampai dengan Maret 2008. Sebanyak 55 pasien, 40 laki-laki dan 15 perempuan yang diduga kanker paru diperiksa dengan CT-scan toraks teknik HRCT tanpa dan dengan kontras, dilanjutkan TTB dengan tuntunan CT untuk mendapatkan bahan sitologi. Hasil Pemeriksaan PA didapatkan 43 pasien (78%) kanker paru dan 12 pasien (22%) tidak terbukti ganas/jinak. Berdasarkan kecocokan gambaran HRCT dan PA dibuat skor untuk umur > 49 tahun, volume tumor lebih dari 68 cm3, HU lebih dari 21, spikula positif , dan angiogram + serta KGB + , dengan nilai masing?masing 20, 19, 10, 24, 18, dan 17 skor total 108. Kesimpulan Tehnik baru dalam mendiagnosis kanker paru dengan HRCT sistem skoring setara dengan pemeriksaan patologi anatomik dengan sensitivitas 97,7% dan spesifisitas 83,3% dengan nilai batas skor 35. Bila skor < 35 berarti lesi jinak dan bila skor >35 berarti ganas

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Abstract

Aim To find a non-invasive diagnostic method for lung cancer with results almost as accurate as histopathological examinations with HRCT scoring system. Method This study was conducted from December 2006 until March 2008. A total number of 55 persons, comprised of 40 male and 15 female patients suspected of having lung cancer, underwent high resolution computed tomography with and without contrast as well as CT-guided transthoracic needle aspiration to obtain cytology specimens.. Results Histopathological examinations revealed the existence of lung cancer in 43 patients (78%) and benign lesions in 12 patients (22%). A scoring system was then made based on the similarities of findings from CT and findings from pathological examinations, where the age group of 49 years and above, tumor volume of more than 68 cm3, HU of more than 21, spicula positive, angiogram positive and lymph node positive had a value of respectively 20, 19, 10, 24, 18, and 17 (total score 108). Conclusion This new method to diagnose lung cancer using high resolution computed tomography converted into a scoring system is constantly as accurate as histological findings with a sensitivity of 97.7% and a specificity of 83,3% and a cut-off score of 35. According to this system, a score of less than 35 indicates that the lesions were benign while a score higher than 35 was considered an indication that the lesions were malignant.