Kesesuaian antara Gambaran Radiografi dan CT-Scan Toraks Pada Populasi Pasien Konfirmasi COVID-19 di RSUPN Cipto Mangunkusumo = Agreement between Chest Radiographic and Chest CT Findings in COVID-19 Confirmed Cases in Cipto Mangunkusumo National Hospital

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Abstrak

Latar belakang: Infeksi COVID-19 menyebabkan terjadinya pandemik diseluruh dunia. Pemeriksaan rRT-PCR merupakan pemeriksaan yang di rekomendasikan dari WHO untuk penegakkan diagnosis dari COVID-19. Faktor-faktor yang mempengaruhi akurasi dari pemeriksaan rRT-PCR untuk diagnosis COVID-19, membuat pemeriksaan penunjang berupa radiografi toraks dan CT-scan toraks juga sangat dibutuhkan guna membantu diagnosis COVID-19. CT-scan toraks lebih sensitif untuk membantu mengarahkan diagnosis COVID-19 namun kurang praktis dalam hal desinfeksi dan dekontaminasi serta transportasi pasien ke ruang CT-scan, dan limitasi ketersediaannya pada fasilitas kesehatan. Di sisi lain, radiografi toraks dengan sensitifitas yang lebih rendah dibandingkan CT-scan, namun memiliki beberapa keunggulan terkait ketersediaan alat serta tidak tidak terkendala masalah transportasi dan dekontaminasi. Metode: Penelitian ini menggunakan data sekunder pemeriksaan radiografi dan CT-scan toraks pasien-pasien dengan hasil rRT-PCR positif yang tersedia di PACS Departemen Radiologi RSCM mulai bulan Maret 2020 hingga Juli 2021, dengan total 41 sampel. Kemudian dilakukan analisis dengan konkordansi dan Kohen Kappa. Hasil: Pada analisis Kappa Cohen, terdapat kesesuaian sedang (0,55) antara penebalan pleura, kesesuaian lemah antara gambaran opasitas ground glass (GGO) (0,32), konsolidasi (0,38), efusi pleura (0,36) , distribusi lesi perifer (0,39), fokus lesi yang multifokal (0,32), zona paru yang terkena (atas 0,32, tengah 0,24, bawah 0,36), dan keterlibatan paru bilateral (0,27) serta tidak terdapat kesesuaian antara gambaran opasitas retikuler (0,06) dan lesi sentral (-0,10) pada radiografi dan CT-scan toraks. Pada analisis Konkordansi terdapat kesesuaian kuat antara gambaran GGO(80,5%), penebalan pleura (90,2%), efusi pleura (92,6%), lokasi lesi di perifer(82,9%), kesesuaian sedang antara konsolidasi (68,2%), lesi multifokal (73,1%), Zona bawah(78%), zona tengah (65,8%) dan keterlibatan paru bilateral (70,7%) dan lemah antara lesi di zona bawah (63,4%) serta tidak ada konkordansi antara opasitas retikuler (48,7%) dan lesi di sentral (51,2%) pada radiografi dan CT-scan toraks.

..... Background: COVID-19 infection causes a worldwide pandemic. The rRT-PCR examination is recommended by WHO for the diagnosis of COVID-19. Factors that affect the accuracy of the rRT-PCR examination for the diagnosis of COVID-19, making supporting examinations of chest radiography and chest CT-scan also needed to help diagnose the COVID-19 infection. Chest CT scan is more sensitive to help direct the diagnosis of COVID-19 but is less practical in terms of disinfection and decontamination and transportation of patients to CT-scan rooms, and limited availability in health facilities. On the other hand, chest radiography has a lower sensitivity than CT scan, but has several advantages related to the availability of tools and transportation and decontamination problems. Methods: This study uses secondary data from chest radiographic and chest CT-scans examinations of patients with positive rRT-PCR results available at the PACS of the RSCM Radiology Department from March 2020 to July 2021, with a total of 41 samples.

The analysis was carried out by using Kappa Cohen and concordance. Results: In Kappa Cohen's analysis, there was moderate agreement (0.55) between pleural thickening, weak agreement between ground glass opacity (GGO) images (0.32), consolidation (0.38), pleural effusion (0.36), lesion distribution peripheral (0.39), multifocal lesion foci (0.32), affected lung zones (upper 0.32, middle 0.24, below 0.36), and bilateral lung involvement (0.27) and no agreement between reticular opacity (0.06) and central lesion (-0.10) on chest radiograph and CT scan. In the Concordance analysis there was a strong concordance between the appearance of GGO (80.5%), pleural thickening (90.2%), pleural effusion (92.6%), the location of the lesion in the periphery (82.9%), moderate concordance between consolidation (68.2%), multifocal lesions (73.1%), lower zone (78%), middle zone (65.8%) and bilateral lung involvement (70.7%) and weak between lesions in the lower zone (63, 4%) and there was no concordance between reticular opacities (48.7%) and central lesions (51.2%) on chest radiographs and CT scans. Conclusion: From all the lesion assessments on chest radiographs and chest CT-scans, reticular opacity lession and the central location of the lesion had no agreement between chest radiographic findings and chest CT scan. The other lesions had moderate to weak agreement on chest radiographs and chest CT scans