

**ABSTRACT**

## **Lung Malignancy vs Pulmonary Tuberculosis: How Does Low Dose Plain Ct Thorax Help?**

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**Introduction:** Lung cancer is by far the most lethal cancer, causing approximately 1.4 million deaths in 2008. Meanwhile tuberculosis (TB) presents a global threat. Various research and studies had been reported in correlation of pulmonary tuberculosis and lung carcinoma. These cause diagnostic challenges from the multi-faceted presentations and lesions in radiograph mimicking each other. **Objective:** To highlight the feasibility of low dose plain CT Thorax rather than going directly to CECT Thorax in differentiating between TB and lung malignancy. **Case description:** Chest radiographs and CT can reveal the precise size, location, and other features of pulmonary lesion. However, increased use of CT scans raises the potential in adding radiation burden to the general population. Therefore, we apply the feasibility of low dose plain CT Thorax as a better modality in differentiating these two pathologies. A total of 13 low dose plain CT thorax cases with sufficient data in Hospital Keningau, Sabah in 2018 with the indications to rule out lung malignancy were taken in this study. These were based on chest radiographs taken, in which features both mimicking the criteria of TB and lung malignancy where 92% of the examinations depicted features of infection rather than malignancy. **Discussion:** Low-dose helical chest CT produced satisfactory image quality and reduced the CTD, albeit this will cause a decrease of homogeneity and increase of noise level in images produced. The exposure dose received during acquisition of three/four low-dose chest

CT scans is equivalent to one routine chest CT scan, hence minimize patient exposure to ionizing radiation while maintaining sufficient image quality, especially in distinguishing TB and malignancy. **Conclusion:** This case reports highlighted the feasibility of low dose plain CT Thorax rather than going directly to CECT Thorax in differentiating between

TB and lung malignancy. In this study, it is proven that low-dose CT can significantly reduce the patient's radiation exposure and is superior to conventional chest radiography for discovering and identifying lung diseases, especially in diagnosing infection and lung malignancy, allowing commencement of correct treatment.