

عنوان مقاله:

The Role of  $^1\text{H-MRS}$  and  $^{18}\text{F}$ FDG PET/CT in differentiating primary squamous cell carcinoma and metastatic Hodgkin's lymphoma in lung: An experimental pilot study

محل انتشار:

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خلاصه مقاله:

**Introduction:** Distinguishing the cellular origin of lung cancer is essential for tailored patient care. This pioneering pilot study explores the synergy of  $^1\text{H-Magnetic Resonance Spectroscopy}$  ( $^1\text{H-MRS}$ ) and  $^{18}\text{F}$ -fluoro- $^2$ -deoxy-D-glucose positron emission tomography/computed tomography ( $^{18}\text{F}$ FDG PET/CT) in the differentiation of primary squamous cell carcinoma (SCC) of the lung from Hodgkin's lymphoma (HL) metastases. **Methods:** Ethically approved, the study enrolled 21 participants with confirmed lung lesions (10 SCC, 11 HL).  $^{18}\text{F}$ FDG PET/CT and  $^1\text{H-MRS}$  were conducted, and analyses were performed to assess diagnostic potential. **Results:** Significant differences in  $^{18}\text{F}$ FDG PET/CT parameters (SUV max BSA, SUV max LBM, and ID%) between SCC and HL were observed. Metabolite concentrations (Cho, Lac, Cr) from  $^1\text{H-MRS}$  also exhibited distinctions. Correlations between PET values and metabolite concentrations hinted at links between glucose metabolism and molecular composition. **Conclusion:** This study presents an innovative approach, integrating  $^1\text{H-MRS}$  and  $^{18}\text{F}$ FDG PET/CT to distinguish primary from metastatic lung lesions. The results hold promise for improving non-invasive diagnostic accuracy and guiding targeted therapies. Future research should validate these findings and explore the potential for clinical integration.

کلمات کلیدی:

Lung cancer differentiation,  $^1\text{H-MRS}$ ,  $^{18}\text{F}$ FDG PET/CT, Squamous cell carcinoma, Hodgkin's lymphoma

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