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Post-Contrast Susceptibility Weighted Imaging vs. Post-Contrast T1 Weighted Imaging for Evaluation of Brain Lesions

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Abstract : Although T1-weighted gadolinium-enhanced imaging (T1-Gd) has its established clinical role in diagnosing brain lesions of infectious and metastatic origins, the use of post-contrast susceptibility-weighted imaging (SWI) has been understudied. This observational study aims to explore and compare the prominence of brain parenchymal lesions between T1-Gd and SWI-Gd images. A cross-sectional study design was utilized to analyze 58 patients with brain parenchymal lesions using T1-Gd and SWI-Gd scanning techniques. Our results indicated that SWI-Gd enhanced the conspicuity of metastatic as well as infectious brain lesions when compared to T1-Gd. Consequently, it can be used as an adjunct to T1-Gd for post-contrast imaging, thereby avoiding additional contrast administration. Improved conspicuity of brain lesions translates directly to enhanced patient outcomes, and hence SWI-Gd imaging proves useful to meet that endpoint.

Keywords : susceptibility weighted, T1 weighted, brain lesions, gadolinium contrast
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