ABSTRACT

Slice spacing is an important geometric parameter in Computed Tomography (CT) that affects the accuracy of image reconstruction and volumetric analysis. The IndoQCT software has been equipped with an automatic slice spacing measurement feature for the GE phantom; however, its capability and accuracy have not yet been evaluated. This study aimed to evaluate the capability and accuracy of IndoQCT software in measuring slice spacing using a GE phantom with variations in slice thickness and tube current–time product (mAs). Measurements were performed using DICOM images acquired from GE phantom scans and analyzed automatically using IndoQCT. Measurement accuracy was evaluated based on deviations from the reference values and comparisons with the manual method. The results showed that slice spacing measurements at slice thickness variations produced deviations of 0.04–0.13 mm with percentage errors of 15.23–17.00%, while mAs variations produced deviations of 0.02–0.07 mm with percentage errors of 9.25–10.06%. The automatic measurements also showed good agreement with the manual method. Based on these results, IndoQCT was capable of measuring slice spacing in the GE phantom and demonstrated satisfactory accuracy, indicating its potential as a supporting tool for CT Quality Control (QC).

Keywords*: Computed Tomography, slice spacing, IndoQCT, GE phantom, Quality Control.*