

ABSTRACT

The present study aims to analyze the effect of mis-centering on changes in CT number uniformity and linearity values on CT simulator by comparing object position variations and tube voltage variations. The evaluation of CT number uniformity and linearity values will be conducted by comparing object position variations in horizontal and vertical with variations of 0 mm, 5 mm, 10 mm, 15 mm, and -5 mm, -10 mm, -15 mm, and with tube voltage variations of 80 kVp, 100 kVp, 120 kVp and 140 kVp. The results demonstrate that CT number uniformity, and linearity values generated compared to object positions in horizontal and vertical with variations of 0 mm, 5 mm, 10 mm, 15 mm, and -5 mm, -10 mm, -15 mm, and with tube voltage variations of 80 kVp, 100 kVp, 120 kVp, and 140 kVp show there are different values in each variation both in changing the position of the object in the vertical and in the horizontal, and also against each voltage variation with CT number uniformity and linearity values generated away from the isocenter value. It is evident that misscentering in the CT Simulator, both in the vertical and horizontal, exerts a substantial influence on the CT number uniformity and CT number linearity values.

Keywords: *mis-centering, CT simulator, CT number uniformity, CT number linearity.*