Reliability of persian early computed tomography score in patients with brain infarction

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View references (١٩)

Abstract

Background: The one-third middle cerebral artery (١/٣ MCA) method and Alberta Stroke Program Early Computed Tomography Score (ASPECTS) were used to detect significant early ischemic changes on brain computed tomography (CT) of patients with acute stroke. We designed the Persian Early CT Score (PECTS) and compared it with the above systems. Methods: The tomograms were chosen from the stroke data bank of Ghaem Hospital, Mashhad, in ٢٠٠٨. The inclusion criteria were the presence of MCA territory infarction and performance of CT within ٦ hours after stroke onset. Axial CTs were performed on a third-generation CT scanner (Siemens, ARTX, Germany). Section thickness above posterior fossa was ١٠ mm (١٣٠ kV, ١٥٠ mAs). Films were made at window level ٣٥ HU. The brain CTs were scored by four independent radiologists based on the ASPECTS, ١/٣ MCA method, and PECTS. The readers were blinded to the clinical information except the symptom side. Cochrane Q and Kappa tests were used for statistical analysis. Results: Twenty four CT scans with sufficient quality were available. The difference in distribution of dichotomized $\leq$٧ and >٧ ASPECT scores between the four raters was significant; Q=١٣,٠٧١, df=٣, P=٠,٠٠٤. The difference in distribution of dichotomized >١/٣ and $\leq$١/٣ MCA territory involvement between ٤ raters was also significant; Q=١٣,٥, df=٣, P=٠,٠٠٤. Distribution of dichotomized <٦ and $\geq$٦ scores based on PECTS system between the four raters was not different; Q=٦,٣٤٩, df=٣, P=٠,٠٩٦. Conclusion: PECTS method was more reliable than ASPECTS and ١/٣ MCA methods in detecting major early ischemic changes in stroke patients who were candidated for thrombolysis therapy.

Reaxys Database Information

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Author keywords

Cerebral infarction; Computed tomography; Thrombolysis

Indexed Keywords

EMTREE medical terms: adult; aged; alberta stroke program early computed tomography score; article; brain infarction; brain ischemia; cerebral artery disease; clinical article; comparative study; computed tomography scanner; computer assisted tomography; controlled study; female; film; human; image quality; male; medical information; persian early computed tomography score; posterior fossa; radiologist; rating scale; reliability; statistical analysis; tomography

Manufacturers:Device manufacturer: Siemens, Germany.