

Diagnosing Stroke cases using unenhanced helical computed tomography in recently Brain Stroked patients in Duhok city

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Background: Cerebral Stroke has been recorded as a major health problem in the world, it accounts the second most common cause of personal disability in the worldwide. This study was undertaken for the use of unenhanced computed tomography (CT) imaging findings in the persons who were clinically diagnosed and referred to the radiological units as a cerebrally stroked patients, aiming to detect their overall number (incidence) in the city, taking into consideration the most common period of onset and duration of their relevant radiological unenhanced CT findings regarding both haemorrhagic, ischemic changes and their subtypes, looking for the most commonly affected vascular territories in different stroke types considering the site and side of the vessel affected, detecting also the most common brain lobes involved in different strokes in detailed disruption with their mass effects in addition to checking the incidence of normal (-ive) CT scan findings among those clinically diagnosed and referred to as stroked patients in addition to finding out the sensitivity of the unenhanced CT in detecting early stroked cases compared to the clinical diagnosis and to find out the most common related risk factor in each kind of stroke

Results: The overall number of these patients was 104 case study, the male patients constitute 60.6% of the total number and the female patients were 39.4%, the mean period of onset of their relevant radiological appearances on the unenhanced CT scan in overall acute cases regardless of the kind of stroke was 6.9 hours from the onset of the patients symptoms, the incidence of ischemic stroke was more than haemorrhagic stroke as it was 33.7% of the overall cases while the haemorrhagic stroke constituted 23.1%. Among all 104 patients, the middle cerebral artery (MCA) was the most affected vessel in both ischemic and haemorrhagic strokes constituting about half of the cases followed by the posterior cerebral artery (PCA) which accounts 17% in ischemic and about 21% of haemorrhagic cases, the right side of both of these vessels was commonly affected, the parietal lobe was most commonly affected in ischemic stroke cases followed by the basal ganglia,

while in haemorrhagic cases the opposite was seen, 43.3% of the cases showed negative CT scan findings. The sensitivity of unenhanced CT scan radiological findings in confirming the diagnosis was 56.7% compared to the clinical diagnosis as reference standard. Regarding the risk factor, the age was the most common factor followed by hypertension and Diabetes Mellitus, more mass effects seen in haemorrhagic than ischemic stroke, the mean time of appearance of radiological changes as seen in CT scan was 5.8 hrs in haemorrhagic type compared with 7.5 hrs. in ischemic stroke

Conclusion: In overall cases of stroke, Male were affected more than the female, 6.9 hours was the mean period of onset of appearance of their unenhanced CT findings, ischemic kind of stroke exceeds haemorrhagic one by about 10%, the right MCA was the most affected vessel in both types of stroke followed by the PCA, the parietal lobe was the most common lobe affected in ischemic stroke while the basal ganglia were most commonly affected in haemorrhagic stroke, negative unenhanced CT findings account for about one third of the clinically diagnosed cases, the unenhanced CT scan detection and disease confirmation sensitivity was more than half compared with the reference clinical diagnosis, age increment was the most common risk factor for overall stroke followed by diabetes mellitus. The use of unenhanced CT scan in the patients presented and clinically confirmed as having stroke, imply an early assessment, giving proper estimation, has a major role in differentiating ischemic from haemorrhagic types of stroke which is considered the major dilemma, in addition it can be performed rapidly, a feature that help recognize early signs of stroke as soon as 6 hours from starting symptoms.

Biography

Maysaloon Shaman Saeed is working as Assistant Professor in University of Duhok. She completed M.B.Ch.B, FIBMS in Diagnostic Radiology. She is also the Head of Radiology Department at College of Medicine in University of Duhok, Iraq.

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