Compression of CT Scan and MRI findings in diagnosis of patients candidate for admission referring to Emergency Department, Imam Reza Hospital with acute vertigo and its relation with trans cranial Doppler results

Mostafavi P MD, Pouraghaei M MD

Department of Emergency Medicine, Imam Reza hospital , Faculty of Medicine, University of Medical Sciences, Tabriz Iran

Abstract

Pretace: The role of neurolmaging in finding the origin of true vertigo wich is the one of the sing's of posterior fossa stroke, is not determined.

Objective: Evaluate of Brain CT Scan and Magnetic Resonance Imaging (MRI) findings in diagnosis of patients candidate for admission referring to Emergency Department with acute vertigo and its relation with trans cranial Doppler (TCD) results.

Material and Methods: We evaluate the findings of neurolmaging modalities in 396 ED patients who admitted in hospital.

The patients who had recent head trauma, Neurosurgery, mental disturbances, middle ear infection , acute Ischemic heart disease and acute diabetic syndromes and hypoglycemia were not included in our study.

The patients after brain CT were admitted in hospital and with serial examination, brain MRI and TCD findings, the definitive diagnosis, including vertigo with central or peripheral origin was made. The findings of diagnostic modalities in central vertigo group were evaluate.

Results: The origin of vertigo in 282 (71/2%) was central and in 112(28/3%) was peripheral. In central vertigo group patient's age were 66 (32-90) in compression with peripheral vertigo group were 59 (22-89), was found older ($P< 0.0001$).

In 390 performed brain CT, 351 (8%) was found without pathology,39(11/4%) was found pathologic.

In 364 performed Brain MRI, 112(28/3%) without pathologic findings, 252(63/6%) was found with pathologic lesions.

Between 289 performed TCD, 114(33%) had no significant findings, 175(67%) had stenosis or calcified plague in vertebro basilar vessels.

In 223(64/8%) of positive MRI findings, CT Scan was reported with no lesion .

Also TCD could predict pathology in brain CT Scan(p=0/009).

Discussion: Brain CT in determining the origin of vertigo don't have significant sensitivity (13%), nor, Negative predictive value (44%). In contrast MRI found 96% sensitivity in our study.

Key Words: true vertigo,Vertebrobasilar Insufficiency,Brain CT Scan,Brain MRI,Trans cranial Doppler