

**DIAGNOSTIC ACCURACY OF MAGNETIC RESONANCE
ANGIOGRAPHY FOR UNRUPTURED CEREBRAL ANEURYSMS
IN CORRELATION WITH DIGITAL SUBTRACTION
ANGIOGRAPHY**

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Intracranial aneurysm is a focal, abnormal dilation of an artery of the brain. Magnetic resonance angiography (MRA) is a non-invasive technique for vascular imaging and is thus widely used for screening for intracranial vascular lesions. The aim of the study was to show the diagnostic accuracy of 3D Time-of-Flight (3D TOF) MRA in the detection of unruptured cerebral aneurysms with the use of digital subtraction angiography (DSA) as the gold standard. A total of 2.612 consecutive patients underwent 3D-TOF MRA. It showed unruptured aneurysms in 94 (3.6%) patients. They included 68 women and 26 men ranging in age from 29 to 76 years (mean, 52.5 years). Twenty-six of them, 20 women and 6 men, underwent DSA. The Mann-Whitney U test was used for the correlation of size. Fisher's test was used for the correlation of location. The statistical level of significance was set at $p < 0.05$. Most often, the aneurysms were located in the bifurcation of the middle cerebral artery (MCA, $n=28$, 33.33%) and the internal carotid artery (ICA, $n=16$, 19%). The mean size of aneurysms was 5.4 mm (range 2 - 15 mm). There was no statistically significant difference in the detection and the location ($p=0.732$) as well as the size ($p > 0.05$) of aneurysms between TOF MRA and DSA.

MRA is an accurate and non-invasive method for diagnosis of unruptured intracranial aneurysms. The results of study show the compatibility of MRA findings, the location and the size of an aneurysm in comparison with the "gold standard" - cerebral DSA. *Acta Medica Medianae 2015;54(3):12-18.*

Key words: *intracranial unruptured aneurysm, magnetic resonance angiography, digital subtraction angiography*