Factors influencing the outcome of endovascular embolization of anterior communicating artery aneurysms

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Aim: The aim of the study was to assess the influence of morphologic parameters of anterior communicating artery aneurysms and the method of embolization on the success rate of procedure.

Introduction: Endovascular embolization of anterior communicating artery aneurysms is currently considered as primary management tool and the improvement of procedural success rate is crucial.

Methods: Treatment process of 109 patients undergoing endovascular embolization of anterior communicating artery aneurysm was retrospectively analysed. All procedures were performed between August 2006 and December 2016 in Department of Interventional Radiology of University Hospital in Cracow (Poland).

The mean age of patients was 56.7 ± 15.2 years (range 28–91). 50.5% of patients were female. Used methods of embolization: coiling alone, balloon-assisted coiling, stent-assisted coiling, Y-stenting + coiling. Evaluated morphologic parameters: width of the neck, maximal height, maximal width, shape of aneurysm, dome orientation. The outcome of the procedure was assessed with Raymond–Roy occlusion classification. Data were analysed using chi-square test and Student’s t-test. Statistical significance was set at p < 0.05.

Results: Coiling alone significantly improved outcome of embolization considered as better score in Raymond–Roy occlusion classification, compared to other methods (1.4 ± 0.5 vs. 1.6 ± 0.7; p = 0.034). In case of irregular aneurysms (85.7% vs. 34.6% (regular aneurysms); p = 0.025; OR = 2.615) and those with posterior orientation of the dome (76.9% vs. 36.5% (anterior orientation); p = 0.005; OR = 5.810) incomplete embolization (Raymond–Roy class II and III) was significantly more frequent. Within the group of discharged patients, only 33.3% underwent control radiologic examination – 40.7% conventional angiography, 59.3% MR angiography. In that group, 81.5% of aneurysms had better or the same class in Raymond–Roy classification and 18.5% had worse outcome. We did not discovered any statistically significant factor contributing to that phenomenon.

Conclusion: Coiling alone is the most efficient method in terms of the aneurysm occlusion rate. Irregular shape of the aneurysm and posterior orientation of the dome significantly hinder the embolization of aneurysm.

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Antidepressive potential of aqueous extract of common vervain (V. officinalis L. Verbenaceae) and molecular docking studies of its main components as potential antidepressive agents

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Introduction: Common vervain is a plant used in traditional medicine. Its AE contains a vast number of compounds, hence its significant pharmacological potential.

The monoamine hypothesis is the central theory of depression, and a majority of conventional antidepressants act on the monoaminergic system.

Methods: Experiments were conducted on Swiss albino sexually mature male mice. There were 6–8 animals in each of 5 subgroups (imipramine; fluoxetine; two different doses of AE – AE I, II; and VS:); Forced Swimming Test (FST) and Tail Suspension Test (TST) were used to assess the antidepressive effect.

Molecular docking experiments were performed using the programme AutoDock 4.2, with 3D structures of crystallized proteins from the PDB database and 3D structures of ligands generated by the software Avogadro 2.0.8.0.