Giant Aneurysm of Basilar Artery

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ABSTRACT

In the article we showed the patient, a woman with unruptured giant aneurysm of basilar artery, we showed the done examinations, and therapy dilemmas about what to do in the given case. We found in literature a number of examples which suggest operation treatment, but of embolisation too, some suggest conservative treatment.

Key words: aneurysm, basilar artery, treatment, therapy dilemmas

Introduction

Intracranial aneurysms are vascular abnormalities which ruptures presents subarachnoid bleeding. It happens in the age from 35–65 years, and mostly between 55 and 60 years, 60% of ruptured aneurysm are found in women.

Giant aneurysms are defined as those wich diameter is 25 mm or bigger, 60% are in anterior, 40% are in posterior circulation with predilecty in vertebrobasilar arteries. Aneurysms originate as effect of prolonged hemodynamic stress, with important role of relationships of anatomic locality, hemodynamics and degenerative factors. Physical excertions and emotional stress are precursors of rupture¹.

Unhemorrhagical symptoms and the signs of unruptured aneurysms are manifested as »mass effect«, thrombosis, embolisation, epileptical attacks, irritation of menings. Diagnosis is stated trough neuroradiological treatment: computed tomography (CT), multi slice-computed-tomography of brain (MSCT), multi-slice angiography (MSCT angiography), magnetic angiography (MRA), cerebral angiography-digital subtraction angiography (DSA).

Cerebral angiography is »gold standard« for diagnostic and aneurysm evaluation¹. Most of aneurysms of brain arteries with the locality in anterior circulation is treated by titan »clips«, in posterior circulation with »coil« from platinum (Guglielmi), wich is since 1995 aknowledged by FDA as sure and effective method of treatment, made better by biological active material on the surface polyglycolic polyplactat acid which coveres platinum and decreases the risk from aneurysm recanalisation²–6.

Case Report

The 63-years-old woman was accepted to the Department of Neurology because of fast lost of sight on both eyes, dull headache in occipital region, afterwards nausea and vomiting. She did not lost consciousness and denied head trauma. Anamnestic: she is hypertonic for many years, at acceptance a very high value of blood pressure. Neurologic state at acceptance: very slowly, asymmetry of the lower part of the face-skin deep left nasolabial furrow, during examination weakened sight on both eyes, sees only shadows, somatic hypertensive.

The following examinations performed:
• CT of the brain: Nativ and with aplication of contrast medium: on both sides occipital-encephalomalatia, and new ischaemical lesion right, suprasellar right round hyperdensal creation which was after aplication of the contrast medium specifically opacific and which initiated aneurysm.
• Pancerebral angiography: Giant aneurysm of basilar artery- on the right contour medium third part of basilar artery of wide neck. Dilatated typ of atherosclerosis.
• MSCT angiography: in the area of medium part of basilar artery we see saccular aneurysm with the beginning on the right lateral wall with direction cranial in the length 25 mm, dolychoectasy of basilar artery as well as carotid arteries-ACI (Figure 1).

• We consulted: neurosurgeon who did not recomend operation for the reason of the Size and statement of aneurysm, and risk conditions, and neuroradiologist who tries to perform endovascular intervention. Tried embolisation was not succesfull, and for that reason conservative treatment was continued. During hospital treatment with antihypertensive and antiagregation therapy, blood pressure was normal value, laboratory parameters were normal. After 4–5 weeks patient had a great headache of pulsatile character, with prompt disturabance of consciousness to deep coma. There was a doubt of rupture of existed aneurysm. CT of the brain showed great unruptured aneurysm of basilar artery and great recent ischaemic lesion of cerebellum and brain trunk and brain parenchym parietooccipital left, in the area of thalamus, with compression od III and IV ventricle which caused by edema. She died after 24 hours. Autopsy was not done (family overload).

Discussion

The clinical dilemma – what to do with the patient with unruptured giant aneurysm of basilar artery, with added risk factors for cerebrovascular illness: arterial hypertension, atherosclerosis, adiposity, to decide whether endovascular or operative or conservative treatment? The examples from literature, as well as from clinical practice showed that the decision is individual, concerning risk factors and the greatness of aneurysm.

The risk of death is to high for non operated aneurysms for the reason of emolisation of intraaneurysmatic situated thromb and followed ischaemia distal from aneurysm and possibility of rupture, and it is 14.5%–40%7. The data from literature show always the same dilemma: surgery (operation) or endovascular (coil placing) or conservative treatment1,7,9,16–20. The lowest risk for rupture has the aneurysm located in the anterior circulation if not greater from 10 mm in diameter. The greatest risk for rupture has aneurysm 10 mm in diameter or bigger located in posterior circulation. The risk can be make lower by very careful anticoagulation, antihypertensive therapy, avoiding of physical activities and by lowering of other risks, but epidemiological data are not very good and took about very high grade of individuality, further of death during next 5 years1,8.

In the decision of therapeutic treatment very important role has the configuration of aneurysm. If it is longish and narrow, it is better for coil, and otherwise not10,16–20. ISAT study has prooved that therapeutic decision of ruptured intracranial aneurysm is same good endovascular and neurosurgical treatment, but concerning risks from new bleeding is more frequent of endovascular treatment11. Recovering of the patient with the damage of posterior circulation, whether if it is infarct of aneurysm, need very careful physical therapy with limited possibilities of recovery of neurological attacks: walk-balance, sight, sensory functions12–15.

Diagnosis will be given trought non invasive and invasive diagnostic treatment, near interdisciplinary cooperation of neurologist and neurosurgeon with radiologist-neuroradiologist, anesthesiologist, as well as doctor known risk factors and possible decisions, to get the highest quality of life of such patients.

The patient from our description died for the reason of massive ischaemic cerebral infarct which developed as consequence of mobilisation of intraaneurysmatic situated thromb distal from aneurysm 24 hours after starting of headache, and after that comma statement and not for the reason of rupture of aneurysm. Unfortunately, autopsy was not done (family overload).

REFERENCES


GIGANTSKA ANEURIZMA ARTERIJE BAZILARIS

S A Ž E T A K

U članku smo prikazali bolesnicu sa nerupturiranom gigantskom aneurizmom arterije bazilaris, prikazali učinjene pretrage, te terapijske dileme što učiniti u konkretnom slučaju. U literaturi smo našli niz primjera koji govore u prilog operativnom liječenju, ali i embolizaciji, dok dio stručnjaka zagovara konzervativni tretman.