CARDIAC MYXOMA AS ORIGIN OF ACUTE ISCHEMIC STROKE

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HISTORY AND PHYSICAL

Acute ischemic stroke poses a great social problem which is characterized by high rate of resulting disability and even mortality – third place after myocardial infarction and tumors. Most common reasons of brain stroke are embolism due to heart arrhythmias or defects of septum and cerebrovascular atherosclerosis. All of these conditions leads to thrombotic occlusion which can be resolved with a new trends in acute ischemic stroke treatment – intraarterial/intravenous thrombolysis. In case of cerebral vessel embolization by parts of cardiac myxoid tumor these methods may be not effective and this is why very important early and exact diagnostic of cerebral blood flow arrest reason.

A 41 – years-old woman suffered from spontaneous onset of tachycardia with dyspnea last 3 month. In according to elevated level of thyrotropic hormone – 15,54 μU/ml (normal range 0,4 – 6 μU/ml), loss of weight – about 9 kilo last year without any reason, a nodular hyperplasia of thyroid gland was suspected and decided to perform an ultrasound diagnostic of the thyroid gland. During ultrasound examination the patient was reported a fall and transient loss of consciousness. Diagnosis of acute brain stroke was suspected and woman was directly transferred to specialized hospital.

At Admission unit on physical examination – were revealed right-sided hemiparesis, motor aphasia, right central paresis of 7th pair cranial nerve. By Glasgo scale patient condition was estimated as 12-13 points and 8 points by NIHSS grading scale. Heart auscultation revealed moderate diastolic murmur. Also, there were no significant changes in blood analysis – red blood cells – 4,5x10^{12}, white blood cells – 9,1x10^{9} (21,4% of lymphocytes and 70,1% of neutrophils), erythrocyte sedimentation rate – 9 mm/h. On cardiogram – nonspecific changes in inferior wall with left ventricle hypertrophy. Tests for antiphospholipid antibodies (cardiolipin and β_2-glycoprotein) and antinuclear antibodies were negative. Also, there were no family history about tumors.

IMAGING

Once the patient with acute stroke suspicion admitted to the intensive care the most obvious reasons are:

- embolism due to atrial or ventricle fibrillation or open “foramen-ovale”;
- atherosclerotic cerebral disease;
- acute arterial or aortic dissection;
- cerebral venous thrombosis;
- endocarditis, tumors etc.

Emergency care in such category of patients consist of intracranial hemorrhage excluding and thrombolysis or mechanical thrombectomy performing for blood restoration Native computed tomography (Fig 1) revealed no ischemic changes in brain tissue. Heart ultrasound (Fig 2) revealed formation with irregular shape 38x21mm, originated from left atrium with moderate obstruction of atrioventricular tract. Emergent cerebral angiography (Fig 3) was performed and thrombosis of middle cerebral artery was revealed.

Fig 1. Brain CT – no ischemic changes.

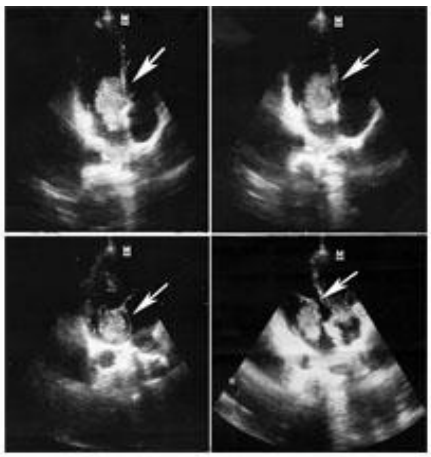

Fig 2. USG of the heart – atypical formation between left atrial and ventricle (white arrow).

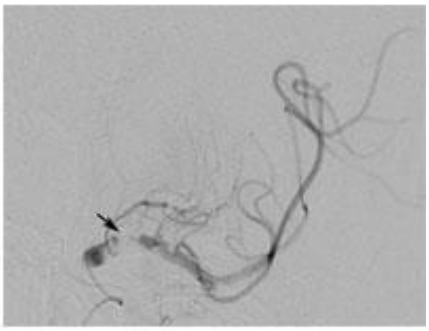

Fig 3. DSA of cerebral arteries – thrombus in left MCA.

INDICATION FOR INTERVENTION

Mechanical thrombectomy was suggested, because it less than 3 hours from the beginning of the onset passed, no intracranial hemorrhage or focal pathology of the brain were revealed and there was suspicion of embolism from the heart.

INTERVENTION

All thrombectomy procedures we perform under general anesthesia. We used the SolitareFR device and Corail 8F guiding catheter with occlusion balloon on it tip. After three passes normal blood flow was restored. Unusual slightly yellow-colored jelly masses were obtained (Fig 4), which were directed to the biopsy and diagnosis of cardiac myxoma were proved.

Fig 4. Gelly masses inside thrombectomy device

After 2 weeks patients was transferred to rehabilitation department with slight paresis in right upper extremity.

LEARNING POINTS OF THE PROCEDURE

Myxoma - it's a benign tumor, originate from mesenchymal tissue sets in myxoid stroma and occasionally develops as part of a familial syndrome, the Carney complex (autosomal dominant conditions comprising myxomas of the heart and skin, hyperpigmentation of the skin and endocrine overactivity). Type 1 myxoma (about 62,2% of all myxomas) has an irregular or a villous surface and a soft consistency and in 20-45% of patients it can be a reason of different embolic complication. Jain S. et al. in their investigation reported, that cardiac myxoma patients had embolic phenomena, which affected the cerebral arteries in 54.5%, peripheral arteries in 18.2% and both cerebral and peripheral arteries in 27.3% patients. Isolated cardioembolic ischemic stroke occurs in 0,5% of all ischemic strokes.

In spite of the cardiac myxoma rarity it may be a reason of serious complication - this is the reason, in such cases perform an ultrasonography for exclusion the heart as a reason of thrombus.