

PECULIARITIES IN THE COURSE AND TREATMENT OF ACUTE BILATERAL ARTERIAL OCCLUSION

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Acute arterial occlusion resulting from thromboembolism of magistral arteries continues to present a serious problem in vascular surgery due to the high lethality rate and leg amputation count (1-5). Single reports in the literature devoted to bilateral arterial occlusion indicate that recently, it occurs almost three times more frequently, results more often in failure after surgical treatment and has a lethality rate of about 80 per cent (6).

MATERIAL AND METHODS

During the last 10 years in the Clinic of Vascular Surgery, Higher Institute of Medicine, Varna, a total of 285 patients were operated. Of them, 218 patients were hospitalized on the occasion of anamnestic data about thrombosis or embolism of lower limb arteries while there were data about upper limb arterial occlusion in the rest 67 patients. Acute bilateral arterial occlusion was established in 39 cases. Both lower limbs were affected in 37 patients. An upper and a lower limb were simultaneously affected in one patient. In another patient besides both lower limbs an upper leg was also damaged. There were 20 males and 19 females with a mean age of 61,2 years.

Acute arterial ischemia was of embolic origin in 36 patients. Embolism affected an artery in 12 patients suffering from an obliterating atherosclerosis.

Etiologically, a mitral valve defect was established in 28 per cent of the cases; state after myocardial infarction - in 27 per cent; cardiosclerosis with arterial fibrillation - in 22 per cent while no reasons could be detected in 5 per cent of the cases. Besides 18 per cent of the patients had suffered from arterial hypertension, 6 per cent reported anamnesticly a cerebral stroke, 2 per cent were proved to be with heart decompensation, 12 per cent had the background of generalized atherosclerosis, 11 per cent - of diabetes, and 5 per cent - of bronchopneumonia.

Only 9 patients (or 23,1 per cent) were hospitalized prior to the sixth hour after initialization of the disease; 11 patients (28,2 per cent) were hospitalized up to the 12th hour, 12 ones (30,8 per cent) - up to the 24th hour, and 7 ones (17,9 per cent) after the 24th hour.

A total of 18 patients (46,2 per cent) were hospitalized at the stage of compensation of peripheral circulation in the legs; 14 patients (35,9 percent) were already at the subcompensation stage but 7 ones (17,9 per cent) had already an ischemic contracture without gangraena.

Thromboembolism was most frequently located in superficial femoral arteries (in 21 patients). In 3 patients besides one femoral artery other vessels were affected, too: the axillary artery (in the first case), the iliac artery (in the second case), and the popliteal artery (in the third case). An acute obstruction of both iliac arteries was found out in 11 patients. In one of them there was a combination with arterial embolism of the brachial artery. An embolism of the aortic bifurcation was observed in 10 patients.

From the diagnostic point of view no arteriographic examination was required in our patients. The state of femoral vessels was specified by ultrasound Doppler location and/or Doppler metry in 18 cases with embolism of the aortic bifurcation and of the iliac arteries.

An embolectomy with access through both femoral arteries was carried out in 38 patients while an access through the brachial artery in addition was used in two of them. A complete restoration of blood flow and peripheral pulsations was achieved in 75 legs. In one patient only revision of both femoral arteries was performed. Intraoperatively, it was established that embolism had

affected not only magistral arteries but also the deep femoral artery of 28 legs. Rethrombosis occurred in 11 cases (or in 28,2 per cent). An amputation was required in 6 patients (15,4 per cent) of 8 legs (10,3 per cent). However, there was a lethal outcome in 5 of these patients. There were a total of 18 lethal cases (46,1 per cent).

Besides the classic embolectomy by means of Fogarty's catheter a cross femoral-femoral shunting under local anaesthesia was carried out in 3 patients because of impossibility for blood flow restoration of one of the iliac arteries. Shunt was anastomosed with the thrombectomized aorto-femoral prosthesis-donor and with the deep femoral artery of the recipient side in one of the patients. However, despite of the successful reconstruction and functioning shunt a popliteal amputation was required in one of the patients while the rest two deceased. Death was caused by mesenteric thrombosis with peritonitis in the first case but by a progredient heart failure in the second one.

RESULTS AND DISCUSSION

The analysis of the reasons for unsuccessful results reveals the following factors. The one of them is the late hospitalization (in 48,7 per cent of the cases) which leads, on the one hand, to progredient intoxication considerably more severe in the case of bilateral arterial occlusion, and, on the other hand, to a significant heart overloading due to high peripheral resistance especially in cases of embolism of the aortic bifurcation. Next come technical errors in the course of embolectomy itself. Deep femoral artery has not been revised in 6 patients. Due to a superficial femoral arterial rethrombosis the leg became severely ischemic. This required amputations in 3 of the patients being bilateral one in one patient with subsequent lethal outcome.

In the course of the treatment of postschismic syndrome we applied a lymph drainage and lymphosorption only in one female patient in a very severe general state, with late (6-day old) embolism of the aortic bifurcation and disturbances of renal and hepatic functions. Although in this case there was also a lethal outcome on the 7th day after operation due to progredient heart insufficiency we allow us to recommend the aforementioned methods for control of intoxication for a more widely usage in the clinical practice. As already mentioned, the total lethality rate in cases with acute bilateral arterial occlusion was 46,1 per cent while it increased up to 68,4 per cent when patients hospitalized after the 24th hour after embolization were concerned. Both aforementioned parameters are considerably higher than these concerning the total group of patients with acute arterial occlusion (17, 3 and 21 per cent, respectively). It argues for a particularly serious problem requiring not only a rapid and effective restoration vascular intervention but also an energetic treatment of intoxication and accompanying diseases.

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ОСОБЕННОСТИ ПРОТЕКАНИЯ И ЛЕЧЕНИЯ ОСТРОЙ ДВУХСТОРОННЕЙ АРТЕРИАЛЬНОЙ НЕПРОХОДИМОСТИ

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РЕЗЮМЕ

Из 285 больных, оперированных с острой артериальной непроходимостью за последние 10 лет, у 200 были тромбозы артерий нижних конечностей. Одновременное поражение сосудов двух конечностей было обнаружено у 39 (19,5 %) из них.

Всем больным была выполнена двухсторонняя тромбэктомия посредством катетера Фогарти, после чего двум больным пришлось произвести бедренно-бедренное экстраанатомическое шунтирование.

Ранний ретромбоз осложнил послеоперационный период у 11 больных (28,2 %), ампутации конечностей были произведены 6 пациентам (15,1%), смертельный исход наступил у 18 больных (46,1 %).