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Congenital vascular malformations: features of diagnosis and complex treatment

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Introduction: Congenital vascular malformations (CVM) occur in 1.5-10% of the total population. Various manifestations of CVM cause difficulties in diagnosis and treatment, resulting in disability and sometimes, death of the patient.

Methods: The data of 630 patients with CVM (period 2005-2016) were analysed, females predominated (55%), and average age was 25.5. Ultrasound duplex scanning, selective arteriography, phlebography, multidetected computed tomography, pathomorphological and immunohistochemical studies (proliferation markers VEGF, Ki-67), study of the hemostasis (D-dimer, soluble fibrin, fibrinogen) and fibrinolytic system (protein C) were investigated.

Results: The source of proliferation of both forms of CVM (venous and arteriovenous (AV)), given the level of VEGF and Ki-67 expression, is precisely the microcirculatory vasculature, due to the presence of existing AV microfistulas. It was discovered the significant activation of coagulation capacity in preoperative period in patients with AV CVM (23): 9 (39%) patients had significantly increased plasma fibrinogen content (from 3.7 to 7.2 g/l), 10 (43.5%) - soluble fibrin (from 3.6 to 50 μg/ml), in 7 (30.4%) - D-dimer (from 119.3 to 1608.3 ng/ml); the activity of protein C in 95% of patients corresponded to the norm/ changes in the postoperative period depended on the clinical-anatomical form of CAVM and type (radicality) of the intervention. Treatment strategy include: Endovascular methods (embolization with the use of non-spherical PVA particles) during preoperative stage and combination of surgical, embolization, laser and sclerotic methods in perioperative stage; Correction of AV shunting separately or in conjunction with venous hypertension correction; Correction of secondary venous hypertension in superficial and/or deep venous systems; Correction of lymphatic outflow (lymphodrenation, lymphangioplasty, and lipolympho-aspiration, lymphovenous anastomoses) and; In cases of severe pain syndrome neurolysis with fascicullary dissection were performed.

Conclusions: The introduced pathogenically based approach allowed obtaining satisfactory results in 94.4% of patients.

Recent Publications

1. Chernukha L et al. (2016) Epidemiological aspects of comorbidity of lower limbs chronic venous disease (CVD) and haemorrhoids: the results of detect-duo. Int Angiol. 35(1-2):83.
2. L M Chernukha, O V Kashyrova, A O Guch, G G Vlaykov, O A Vlasenko, V A Kondratuk and I V Gomolyako (2017) Congenital vascular malformations: features of diagnosis and treatment (2017) The Hungerian Journal of Vascular Diseases XXIV(3):17-18.

3. **Chernukha L, Kashyrova O, Vlaykov G, Guch A, Vlasenko O and Kondratyuk V (2018) The main aspects of diagnostics and treatment of diffuse arteriovenous forms of congenital vascular malformations of extremities with the presence of microfistulas. Acta Phlebologica. 19(2):49-55.**

Biography

Chernukha L M is a Leading Research Fellow of the Department of Vascular Surgery, Vascular Surgeon, Phlebologist; Vice-President of Association of Vascular Surgeons, Phlebologists, Angiologists of Ukraine; Chief Editor of "Clinical Phlebology". She is the author of the initiative and the Head of the working group on the creation of Consensus and National Guidelines on Phlebolymphology. She is the main specialist in phlebolymphology (care patients with congenital vascular malformations, lymphedema, chronic and acute venous diseases, post-traumatic injury of magistral vessels). She is in the Editorial board of: Clinical Phlebology (Kiev), Phlebology (Moscow), Cardiac Surgery and Interventional Cardiology (Kiev), Angiology and Vascular Surgery (Moscow) and, Surgery New (Vitebsk).

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