

Management of gestational varicose disease

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Application of complex therapy is effective method of gestational varicose disease treatment and promotes preventive maintenance of thrombotic complications. Application of Dioflan is enters in the complement of complex therapy. Easiness in application, the reduction of such displays as a hypostasis, reddening, pain, paresthesias, the itch, dryness of integuments do its application almost irreplaceable at gestational varicose illness treatment of complex therapy the postnatal period.

Key words: *gestational varicose disease, compression, Dioflan.*

Up to 30% of the population are affected by varicose veins. They are a manifestation of increased venous pressure in the lower limb caused by impaired venous return. Primary varicosities result from poor drainage from the superficial to the deep venous system. Secondary varicosities arise as a result of underlying pathology impeding venous drainage, such as deep venous thrombosis or increased intra-abdominal pressure caused by a mass, pregnancy or obesity. Disease onset in 90–96% of women related to pregnancy and childbirth, illness progresses rapidly during pregnancy. In 36.3% of women clinical signs of veins appear in the I trimester, 60% – in the second and 3.7% – in the third trimester. With each successive pregnancy degree VV increases [1, 2]. The high frequency (20% to 40%) varicose veins disease (VVD) in pregnancy and childbirth due to the increased weight of blood and cardiac output, increased venous pressure, slowing the speed of circulation in the lower extremities, hormonal changes the body, changes in microcirculation and hemostasis. Most researchers believe the cause of ulcer weakness muscular walls of veins and valves disability [3, 4].

One of the complications are varicose veins of the uterus, which promotes bleeding in the third stage of labor, septic complications in the postpartum period and thromboembolism. VV of uterus communicates with the outside varices in 66% of cases [5].

For the prevention and treatment of pregnant women with risk factors for thromboembolic complications effectively apply compression therapy and phlebotrophic drugs. Compression therapy aimed at reducing the diameter of the veins, increased tissue pressure, increase blood fibrinolytic activity due to intensive products tissue plasminogen activator and compression of intramuscular venous plexus and perforating veins [6, 7].

Problem VVD of the lower extremities and pelvic basin related to pregnancy and childbirth, remains unsolved. The literature describes various aspects of the pathogenesis, clinical presentation, diagnosis and treatment of this disease.

Objective: To assess the effectiveness of combined therapy of gestational varicose veins.

MATERIALS AND METHODS

For the randomized trial were selected 60 pregnant women with venous insufficiency II–III centuries severity. We administered to pregnant women in the period 33–37 weeks of compression therapy moderate 23–32 mm Hg c and oral Dioflan 1 tablet (500 mg), 2 times a day. The course of treatment – 4 weeks.

Dioflan («Arterium») containing diosmin and hesperidin (a mixture of flavonoids) that provides active absorption and rapid onset of drug action.

Pharmacological effect of Dioflan determined not only venotonic and angioprotective action, but also other biological properties that act on different pathogenesis of venous insufficiency.

Dioflan increases venous tone, strengthens the venous wall and improves microcirculation, reduces capillary permeability and increases their resistance, improves lymphatic drainage and increases lymphatic flow. The drug also reduces the interaction between leukocytes and endothelial leukocyte adhesion in post-capillary venules. This reduces the action of inflammatory mediators damaged on the walls of veins and vein valves.

Dioflan available for use at home, does not cause systemic reactions, and its use is not accompanied by the development of adverse reactions.

Prior to treatment and after it we evaluated the clinical manifestations of the disease: the presence of heavy legs; pain over the course of the vein; swelling; paresthesia and cramps; erythema and general appearance of the limb.

Clinical control was performed according to the general analysis of blood and performance of hemostasis (hematocrit, activated partial thromboplastin time, prothrombin index, thrombin time, antithrombin III, fibrinogen, platelets, platelet aggregation rate). In order pelvic VV diagnosis that arose during pregnancy, at 33 weeks of pregnancy and after treatment (38 weeks) conducted surveillance of women internal iliac vein Doppler with spectral analysis. We studied blood flow following parameters: average flow velocity (AFV) cm/sec; cross-sectional diameter (CSD) cm; cross-sectional area (CSA) cm²; the volume of blood flow (BV) ml/min.

RESULTS AND DISCUSSION

The average age of the studied group of women was 32,3±4,4 years. For a history of a genetic predisposition to varicose veins was observed in 46% of women. In assessing the reproductive function of the survey, it should be noted that 71% of women were multiparous. Among them, 12 (20%) women caesarian section were performed, 2 (3.3%) – obstetrical forceps were performed, in 6 (5%) of cases – premature birth occurred.

All women, in addition to the traditional survey conducted physical examination of the affected limb, evaluated the progress of gestational varicose veins (VVD) at 33 and 38 weeks of pregnancy by a specially designed questionnaire, which included the following statement: occurrence of spontaneous pain, tenderness over the course of veins availability swelling, limitation of limb function associated with VVD feeling of «heaviness» in the affected limb, paresthesias, and seizures, presence of erythema, the overall condition of skin, itching. Each parameter was assessed on a four point scale. In addition, all women surveyed groups carried out clinical blood and hemostasis analysis in due course of pregnancy.

As a result, the study found that pregnant women, who used combined therapy, noted the absence or reduction of spontaneous pain in the affected limb: 62% no tenderness or spontaneous pain and 88% no erythematous redness over the course of the veins, in 48.5% of women decreased edema limbs confirmed the decline in limbs in the area of the lower leg from an average of 40.3 cm to 34.5 cm decreased subjec-

Table 1

The state of homeostasis in women with VVD before and after treatment

Parameters	Before treatment	After treatment
Hematocrit, %	40,3±1,1	41,1±1,2
Activated partial thromboplastin time APTT, s	38,8±1,6	36,9±1,1
Prothrombin index, %	90,2±1,5	91,2±1,3
Thrombine time, s	17,6±1,2	17,7±1,2
Antithrombin, g/l	0,12±0,01	0,13±0,02
Fibrinogen, g/l	3,9±0,2	3,8±0,2
Platelets, x 10 ⁹ /l	270,2±5,2	268,7±5,1
The rate of platelets aggregation, %	22,1±1,4	21,8±1,3

tive manifestations such as VVD feeling of heaviness in the limbs – 56%, paresthesia – 91%, seizures – 88% of women of observation. 86.5% of pregnant women with VVD noted improvement in general condition of the skin of the affected limb, 94.5% of surveyed noted a decrease or absence of itching at the site of injury. In general, the subjective improvement of 98.5% marked limbs women of observations within a week after the course of treatment.

All patients who underwent a course of therapy satisfactorily undergone the treatment of allergic reactions were observed.

The analysis of the hemostatic system before and after the course of treatment showed no significant changes in coagulation parameters (Table 1).

We investigated four parameters of blood flow in the right and left internal iliac veins – the average flow velocity (AFV), the cross-sectional diameter (CSD), the amount of blood flow (BV) and cross-sectional area (CSA) – in 33 (before treatment) and 38 weeks pregnancy (after treatment).

It should be noted that the average speed of blood flow in the normal range in 42.5% of women in the right iliac vein in 12.5% of subjects in the left iliac vein (Table 2).

After treatment AFV in the right iliac vein was normalized in 5% of women surveyed group; in the left iliac vein AFV indicators were equally low.

The diameter of the cross section (CSD) right internal iliac vein in the normal range of 0.5 cm was found in 47.5% of surveyed women left internal iliac vein – in 57.5% (Table. 3).

After 38 weeks of pregnancy CSD of internal iliac vein right in the normal range in 70% of the left iliac vein – to 67.5%. In the treatment of iliac vein diameter right remains unchanged.

According to Table 4 blood flow volume of 30-100 ml/min in the right iliac vein was observed in 60% of pregnant women on the left – in 72.5%.

The volume of blood flow in the right iliac vein after treatment increased 17.5%; in the left iliac vein decreased 15%. BV in iliac veins at 38 weeks of pregnancy after treatment returned to normal 5%.

Cross-sectional area (CSA) for 33 weeks 0,16–0,2 cm² of the right iliac vein was observed in 42.5%; 0,21–0,25 cm² in the left iliac vein in 50% (tab. 5).

After treatment CSA of the right iliac vein 0,16–0,2 cm² in 42.5% of surveyed women 0,21–0,25 cm² in the left iliac vein in 47.5%. CSA at 33 weeks gestation in the right iliac vein smaller than in the left. After 38 weeks CSA increased in the right iliac vein at 5%, on the left in 22.5%.

Ultrasonic studies of pelvic venous Doppler effect is appropriate for the early diagnosis of varicose veins dilatation in pregnancy, which allow to begin therapy in time and will help prevent possible complications in the future.

Table 2

The average speed of blood flow in the iliac veins

	AFV, sm/sec	33 weeks	38 weeks
Internal right	3,2-5,0	37,5%	30%
	5,1-10,0	20%	30%
	10,1-15,0	30%	20%
	15,1-30,0	12,5%	20%
Internal left	2,3-5,0	40%	30%
	5,1-10,0	47,5%	57,5%
	10,1-15,0	12,5%	12,5%

Table 3

The cross section diameter of the iliac veins

	CSD, sm	33 weeks	38 weeks
Internal right	0,4	17,5%	17,5%
	0,5	47,5%	70%
	0,6	30%	12,5%
	0,7	5%	2,5%
Internal left	0,4	12,5%	67,5%
	0,5	57,5%	30%
	0,6	30%	-

Table 4

The volume of blood flow in the iliac veins

	BV, ml/min	33 weeks	38 weeks
Internal right	31-50	40%	35%
	51-100	20%	42,5%
	101-150	2,5%	12,5%
	151-200	27,5%	10%
	301-331	10%	-
Internal left	28-50	20%	27,5%
	51-100	52,5%	30%
	101-150	20%	37,5%
	151-260	7,5%	5%

Table 5

Cross-sectional area of iliac veins

	CSA, sm ²	33 weeks	38 weeks
Internal right	0,1-0,15	20%	30%
	0,16-0,2	42,5%	42,5%
	0,21-0,25	27,5%	17,5%
	0,31-0,4	10%	10%
Internal left	0,1-0,15	12,5%	2,5%
	0,16-0,2	12,5%	30%
	0,21-0,25	50%	47,5%
	0,26-0,4	25%	20%

CONCLUSIONS

Application of the proposed combined therapy is an effective treatment gestational varicose veins disease in the third trimester (33–37 weeks in the period) and helps prevent thrombotic complications. Application of Dioflan, which is part of adjuvant ther-

apy, has no contraindications during pregnancy because virtually no systemic effects. The ease of use, reduction of symptoms, like swelling, redness, pain, paresthesia, pruritus, dry skin determining priority for the use of adjuvant therapy in the treatment of gestational varicose veins disease during pregnancy.

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Применение комплексной терапии является эффективным методом лечения гестаціонной варикозной болєзни (ГВБ) в III триместре беременности (в сроке 33–37 нед) и способствует профилактике тромбозных осложнений. Применение Диофлана, который входит в состав комплексной терапии, не имеет противопоказаний во время беременности, в отличие от большинства таблетированных форм венотоников, поскольку не оказывает значительного системного воздействия. Легкость применения, уменьшение таких проявлений, как отек, покраснение, боль, парестезии, зуд, сухость кожных покровов определяют приоритетность использования комплексной терапии при лечении ГВБ во время беременности.

Ключевые слова: гестаціонная варикозная болєзнь, компрессия, Диофлан.

Менеджмент гестаціонної варикозної хвороби
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Застосування комплексної терапії є ефективним методом лікування гестаціонної варикозної хвороби (ГВХ) в III триместрі вагітності (в терміні 33–37 тиж) і сприяє профілактиці тромбозних ускладнень. Застосування Диофлана, який входить до складу комплексної терапії, не має протипоказань під час вагітності, на відміну від більшості таблетованих форм венотоніків, оскільки не має значного системного впливу. Легкість застосування, зменшення таких проявів, як набряк, почервоніння, біль, парестезії, свербіж, сухість шкірних покривів визначають пріоритетність використання комплексної терапії при лікуванні ГВХ під час вагітності.

Ключові слова: гестаціонна варикозна хвороба, компресія, Диофлан.

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