Western European Journal of Modern Experiments and Scientific Methods
Volume 2, Issue 3, March, 2024
https://westerneuropeanstudies.com/index.php/1
ISSN (E): 2942-1896 Open Access| Peer Reviewed

STATE OF HEMOCOAGULATION AND IMMUNE STATUS IN THE CENTRAL AND REGIONAL BLOODSTREAM IN PATIENTS WITH ACUTE THROMBOSIS OF THE VEINS OF THE LOWER EXTREMITIES

Komiljonov Abdulazizbek Elmurodjon ugli
Assistant of the Department of Faculty and
Hospital Surgery, Andijan State Medical Institute

Acute thrombosis of the main veins is a severe, often life-threatening disease. The number of such patients not only does not decrease every year, but there is also a clear tendency towards their growth 3 After a certain time, 60-80% of patients develop postthrombophlebitic disease, and subsequently 15-29% develop trophic ulcers of the leg 2,4. All this often led to long-term incapacity and even disability for people of young working age 1. In recent years, the number of studies has increased indicating the participation of autoimmunoaggression in the process of venous thrombus formation, which contributes to the development and progression of venous insufficiency 2,3. In the initial stages of the disease, only the venous wall has antigenic properties, and with further progression of the pathological process, the tissues surrounding the vessel also have these qualities 1. Correction of hemocoagulation and immunological status of patients with thrombosis of the veins of the lower extremities will promote early recanalization and improve treatment results.

The purpose of the work is to study the coagulation and immunological status in the central and regional blood flow during venous thrombosis of the lower extremities with the aim of pathogenetically substantiated effects on hemocoagulation and immune status in the treatment of this category of patients. Material and research methods. 84 patients with venous thrombosis of the lower extremities were examined. Of these, 58 were diagnosed with acute deep vein thrombosis and 26 superficial. There were 38 men and 46 women. The direct cause of the disease was inflammatory diseases and infection in 22%, surgical interventions and trauma in 19.5%, cardiovascular diseases in 17%, and varicose veins in 14.5%. Other reasons (oncological, intravenous infusions, hypothermia, physical stress) – 13%. In 15% of cases the cause is not established. A study of this category of patients revealed that in the first three days after the appearance of the first clinical signs of the disease, 21 (25%) were admitted; the main group of patients was admitted on days 4-8 of the disease, 63 (75%). This is due to the prodromal stage of the disease, when during the formation of the primary thrombus in the vein there are no pronounced hemodynamic disturbances in the limb.

The circulatory system was examined using Doppler ultrasound. To determine the state of hemocoagulation and immune status in patients, blood was taken from the cubital vein (common bed) in the morning. In order to assess hemocoagulation and immunological status near the site of thrombosis and in the perivasal tissue, blood was taken from the femoral vein in an area

Western European Journal of Modern Experiments and Scientific Methods
Volume 2, Issue 3, March, 2024
https://westerneuropeanstudies.com/index.php/1
ISSN (E): 2942-1896 Open Access| Peer Reviewed

naffected by thrombosis (regional crib).

Assessment of immune status included a study of the relative number of T-lymphocytes and their subpopulations - theophylline-resistant (T-helpers) and theophylline-sensitive (T-suppressors) which were determined by the method of spontaneous rosette formation. The content of serum immunoglobulins of class A, M and G was determined by the method of radial immunodiffusion according to Mancini. The control group consisted of 24 practically healthy individuals. Patients with deep vein thrombosis had pronounced changes in hemocoagulation in both central and regional blood flow. This was characterized by a decrease in blood clotting time, as well as the time of plasma recalcification, and an increase in fibrinogen content. The fibrinolytic activity of the blood decreased. At the same time, fibrinolytic activity, despite pronounced hypercoagulation, slowed down in the regional blood flow, which is associated primarily with a decrease in the level of local factors of fibrinolytic activity.

All this reflected changes in the functional state of the coagulation and anticoagulation systems. Table no. 1.

Table no. 1
Coagulogram indices in the central and regional blood flow in patients with deep vein thrombosis (n-72)

Показатели	Норма (n-26)	Тромбоз глубоких вен	
		Центральный кровоток	Региональный кровоток.
Время свёрт. крови (мин)	4,2±0,5	4,0±0,3	3,7±0,3
ПТИ (%)	84±1,3	92±2,5	98±2,3
Толерант. плазмы к гепарину (мин)	8,5±0,5	7,7±05	6,7±0,6
Время рек. плаз. (сек).	110±5,2	123±4,1	129±3,3
Тромботест (степень)	IV	IY-Y	Y-YI
Фибриноген (г\л)	2,76±0,11	3,65±0,16	4,05±0,26
Фибринолит. активн. (мин)	220±3,4	188±4,8	176±5,1

A study of patients showed that blood clotting time was reduced in 70% of patients in the central and even more in the regional blood flow compared to healthy people (4.2□0.5 min.) and amounted to 4.0.5 and 3, respectively. 70.3 min. Plasma tolerance to heparin in 82% decreased in the central and regional bloodstream compared to healthy people (8.5□0.5) and amounted to 7.7□0.3 min, respectively. ($p>0.05$) and 6.10.2 min. ($p<0.05$). The amount of fibrinogen increased in 93% of patients and amounted to 3.650.16 g/l in the central bloodstream and 4.68□0.30 g/l in the regional circulation compared to healthy people (2.76□0.11) was significant increased ($p<0.05$). Fibrinogen B was detected in 90% of patients in the central circulation and in all patients in the regional circulation. Despite pronounced hypercoagulation, the anticoagulant system was suppressed in 95% of patients. Thus, there was a decrease in fibrinolytic activity on average to 188□4.8 in the central area and to 176□5.5 min. in regional

Western European Journal of Modern Experiments and Scientific Methods
Volume 2, Issue 3, March, 2024
https://westerneuropeanstudies.com/index.php/1
ISSN (E): 2942-1896 Open Access| Peer Reviewed

blood flow in relation to healthy ones (220□7.3 min.), which was significantly reduced (p <0.05).

Thus, the studies revealed that in patients with acute thrombosis of the deep veins of the lower extremities, according to coagulogram data in the central bloodstream, the above indicators moderately deviated from the norm, while in the regional bloodstream significant shifts towards hypercoagulation were noted.

A study of cellular immunity in patients with acute deep vein thrombophlebitis revealed that the relative percentage of T-lymphocytes in this group of patients was 49.5 ± 1.1%, and its absolute number was 788 ± 46.5 cells/µl, while in regional - 46.7±0.9% and 717.3±43.5 cells/µl, respectively (P<0.01). The relative percentage of TF-resistant lymphocytes in the central bloodstream was 37.1±0.8%, the absolute number was 292.5±25.7 cells/µL, and in the regional circulation, respectively, 35.9±0.7% and 257.5±21 .7kl/µl. These indicators, compared with the control group of healthy individuals (39.1±1.2 and 386.3±31.5), were moderately reduced (p<0.05). A study of TF sensitive T lymphocytes revealed that their number in the central bloodstream was 12.4±1.0% and the absolute number was 97.8±17.8 cells/µl, and in the regional circulation, respectively, 10.2±1.2% and 73.1±16.2 cells/µl, which was significantly reduced in relation to the control group of healthy individuals (18.3±0.8 and 180.8±16.5) (P<0.05).

Thus, in patients with acute deep vein thrombosis, the number of theophylline-sensitive T lymphocytes was reduced and the suppression of theophylline-resistant T lymphocytes was less pronounced. The data is presented in table No. 2.

Table 2

Indicators of cellular immunity in the central and peripheral blood flow in patients with acute thrombosis and deep veins of the lower extremities (n-40)

Показатели		Пракически здор. лица (n-24)	Центральный кровоток	регионарный кровоток
Т%-лимфоц	Относит	57,6±1,5	49,5±1,1	46,7±0,9
	Абсолют	988±39,4	788+46,5	717,3+43,5
Тф.рез. лимфоциты	Относит	39,1±1,2	37,1±0,8	35,9±0,7
	Абсолют	386,3±31,5	292,5+25,7	257,5+21,7
Тф.ч. лимфоциты	Относит	18,3±0,8	12,4±1,0	10,2±1,2
	Абсолют	180,8±16,5	97,8+17,8	73,1+16,2

Western European Journal of Modern Experiments and Scientific Methods
Volume 2, Issue 3, March, 2024
https://westerneuropeanstudies.com/index.php/1
ISSN (E): 2942-1896 Open Access| Peer Reviewed

A study of the humoral component of immunity showed an increase in the concentration of class A immunoglobulin in 55% of cases where it was 3.02□0.2 g/l in the central bloodstream and 3.24□0.4 g/l in the regional bloodstream; in the control group it was 2.68 □0.25 g/l (p>0.05). At the same time, there was a pronounced increase in the concentration of immunoglobulin M in 85% of patients in the central bloodstream to 1.96□0.32 g/l and in the regional bloodstream to 2.35□0.28 g/l compared to the control group - 1.32□ 0.3 g/l (p<0.05). The concentration of class G immunoglobulins increased in 60% of cases in the central bloodstream to 14.9□0.4 g/l (p<0.1) and in the regional bloodstream to 16.7□0.3 g/l (p<0.001) in compared with the control group of healthy individuals – 13.3□0.5 g/l. The data is presented in table No. 3

Table 3
Indicators of immunoglobulins in general and regional blood flow in patients with acute thrombosis of deep veins of the lower limbs (n-46)

Показатели (г/л)	практичес. здор.лица (n-24)	центральн.кровоток	Регионарный кровоток
			.
A	2,68±0,2	3,02±0,2	3,24±0,3
M	1,32±0,3	1,96±0,32	2,35±0,26
G	13,36±0,8	14,9±0,4	16,7±0,2

Thus, in patients with acute thrombosis of the lower extremities, there was a disturbance in the immune status, characterized as a decrease in cellular immunity, which is expressed in a decrease in the subpopulations of T-helpers and T-suppressors, and the humoral link of immunity was characterized by a moderate increase in all classes of immunoglobulins in the central bloodstream and more pronounced shifts in regional blood flow.

Conclusions:

1. The studies revealed that patients with acute thrombosis of the veins of the lower extremities had an increase in the coagulation system and a decrease in the anticoagulation system of the blood. Immune status disorders were characterized by a decrease in cellular immunity and an increase in humoral immunity. At the same time, preferential changes in regional blood flow were revealed.
2. In patients with acute thrombosis of the lower extremities, the study of regional blood circulation allows us to identify the degree of autonomy of the process, which significantly influences the development and outcome of the pathological process.
3. A comprehensive assessment of the state of the body's reactivity is necessary for a pathogenetic approach to the treatment of this category of patients.

Literature

1. T.A. Osmonov, E.M. Nosinov, D.N. Alekseev DIAGNOSTICS AND TREATMENT OF ACUTE THROMBOSIS OF THE MAIN VEINS // Educational and methodological manual Bishkek 2011

Western European Journal of Modern Experiments and Scientific Methods
Volume 2, Issue 3, March, 2024
https://westerneuropeanstudies.com/index.php/1
ISSN (E): 2942-1896 Open Access| Peer Reviewed

2. Kerimova G.M. LYMPHOTROPIC THERAPY IN COMPLEX TREATMENT OF INFLAMMATORY AND TROPHIC PROCESSES IN DISEASE OF THE VEINS OF THE LOWER EXTREMITIES Moscow, Educational manual 2009
3. Academicians of the Russian Academy of Sciences L.A. Bockeria, I.I. Zatevakhin, A.I. Kiriyenko RUSSIAN CLINICAL GUIDELINES FOR DIAGNOSIS, TREATMENT AND PREVENTION OF VENOUS THROMBOEMBOLIC COMPLICATIONS // Moscow 2015