Выводы

Таким образом, полученные данные указывают на то, что хроническое воздействие ЭМП устройств Wi-Fi (2,45 ГГц, ППЭ = 0,01–1,56 мкВт/см^2, 24 ч/день) способно вызывать изменения морфофункциональной активности прогениторных клеток, степень выраженности изменений зависит от возраста животных. У экспериментальной группы животных на стадии раннего постнатального развития (3 мес.) установлено повышение числа апоптотических форм, частот микроядер и снижение пролиферативной активности ММСК. Можно предположить, что в последующем это может сказаться на изменении дифференциального потенциала клетки.

ЛИТЕРАТУРА

1. *Васин, А. Л.* Количественные критерии перехода от нормы к патологии при хроническом действии физических факторов / А. Л. Васин, А. В. Шафиркин // Радиационная биология. Радиоэкология. 2006. Т. 46, № 4. С. 498–507.

2. *Григорьев, О. А.* Электромагнитная безопасность городского населения: характеристика современных источников ЭМП и оценка их опасности / О. А. Григорьев //Электромагнитные поля и население: сборник статей; под общ. ред. проф. Ю. Г. Григорьева. М.: Изд-во РУДН, 2003. С. 76–93.

3. Проточная цитометрия в медицине и биологии. 2-е издание дополненное и расширенное / А. В. Зурочка [и др.]. Екатеринбург: РИО УрО РАН, 2014. 576 с.

4. *Adair, E. R.* Thermoregulatory responses to RF energy absorption / E. R. Adair, D. R. Black // Bioelectromagnetics. 2003. Т. 24, № S6. С. 17–38.

5. In vitro micronucleus assay scored by flow cytometry provides a comprehensive evaluation of cytogenetic damage and cytotoxicity / S. M. Bryce [et al.] // Mutation Research/Genetic Toxicology and Environmental Mutagenesis. 2007. Vol. 630, № 1–2. P. 78–91.

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INFLUENCE OF DIFFERENT HUMAN SOMATOTYPE ON SAPHENOPOPLITEAL PATTERNS

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Introduction

The small saphenous vein (SSV) is the superficial vein of the posterior leg. It drains the lateral side of the leg and extends up the posterior surface of the leg to drain into the popliteal vein. Termed the «lesser saphenous vein» or «short saphenous vein» the uses of these terms rejected and is no longer recommended for standardization of terms [3]. According to many findings, the small saphenous vein (SSV) has major anatomical types because of its embryological origin [5]. The SSV enters the popliteal fossa which drains into the popliteal vein superiorly at which the two heads of the gastrocnemius diverge, by either joining the popliteal directly or after joining a gastrocnemius vein first. The small saphenous vein possesses from nine to twelve valves, one of which is always finding near it's in the popliteal vein [4]. About one-third to one-half of the way down from the popliteal fossa to the ankle, near the inferior termination of the gastrocnemius muscles, the sural nerve enters the saphenous space and is adjacent to the SSV. The two structures become more closely related under the lower leg. The sural nerve provides sensory innervation to the posterolateral calf and lateral aspect of the foot [1]. There are such well-known venous surgery procedures (such as different types of venectomy) that specialize in varicose veins of the lower extremities, especially the large (LSV) and small saphenous vein (SSV). Since the incompetence of these veins are so common, anatomical knowledge of the common types and their variants is valuable. In particu-

lar, such an important veins variant the anastomotic branch between LSV and SSV has been shown to be affected by varicose veins with reflux above or below the thigh [1]. The term «saphenopopliteal pattern» has been introduced to characterize the anatomical interrelation of the small saphenous vein and popliteal vein within the area of the popliteal fossa. Five basic saphenopopliteal patterns were described including rare ones when the small saphenous vein opens into the gastrocnemius veins [2] (Figures 1, 2).

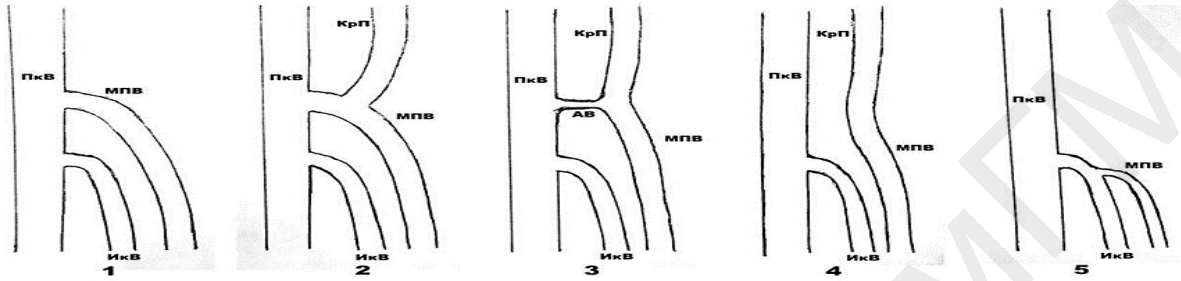

Figure 1 — Main sapheno popliteal patterns. ПкВ — popliteal vein; МПВ — small saphenous vein; КрП — cranial continuation of the small saphenous vein; ИкВ — sural vein (medial or lateral); АВ — anastomotic vein

Figure 2 — The posterior aspect of the right lower limb has been dissected, demonstrating the small saphenous vein (SSV) not terminating into the popliteal vein, but into the large saphenous vein as Giacomini vein (GV). ScN: Sciatic nerve, P: proximal, D: Distal, L: lateral, M: medial

Aim

To study about the anatomy of the small saphenous vein in the popliteal junction. To illustrate and demonstrate the possible types of the interrelations of the small saphenous vein and popliteal vein. To study the distribution of these types of SSV among patients of both male and female with different somatotypes.

Material and methods of the research

21 patients (42 extremities) of both female-15 (71.43 %) and male-6 (28.57 %) patient's aged 19 to 21 were examined by the method of duplex ultrasound scanning. According to Chernorutsky`s classification, the patients were divided into three groups: Dolichomorphic, Mesomorphic, Brachymorphic. The percentage of different types of the topography of the small saphenous vein was calculated among the examined patients. Also the analysis and generalization of modern medical scientific literature on this topic were taken from journals and previous articles (Table 1).

Table 1 — Distributions of constitution of observe patients (21)

Physique / Constitution	Constitution % in both gender	
	Male	Female
Brachymorphic	19.05 %	9.52 %
Dolichomorphic	4.76 %	38.09 %
Mesomorphic	4.76 %	23.8 %

Results and discussion

Table 2 — Distributional percentage of SPV patterns

	No of SPV patterns (R + L)	% of SPV patterns
Sapheno-popliteal junction	19	45.24 %
Without Sapheno-popliteal junction	6	14.29 %
Sapheno-popliteal junction with cranial extension	12	28.57 %
Anastomotic branch	5	11.9 %

Table 3 — Comparison between the types of SPV among gender

Gender	Sapheno-popliteal junction.	Without Sapheno-popliteal junction.	Sapheno-popliteal junction with cranial extension.	Anastomotic branch.
Men	16.67 %	—	7.14 %	4.76 %
Women	28.57 %	14.29 %	21.43 %	7.14 %

Table 4 — Distributional SPV patterns among different somato-types

	Sapheno-popliteal junction.	Without Sapheno-popliteal junction.	Sapheno-popliteal junction with cranial extension.	Anastomotic branch.
Brachymorphic	16.67 %	2.38 %	7.14 %	2.38 %
Dolichomorphic	23.8 %	4.76 %	9.52 %	4.76 %
Mesomorphic	7.14 %	4.76 %	11.9 %	4.76 %

It has been found that the patterns with the saphenopopliteal junction prevail (45.24 %), and in (14.29 %) cases the small saphenous vein did not have any connection with the popliteal vein. 1/3 of patients have cranial extension. In case of varicose of lower extremities; this patients may get remedies after vein-ectomy. The gender factor has effect on the pattern types. Because number of cranial extension women (21.43%) patient's higher than male (7.14 %). This also leads to the severe provoking reason for the varicose disease after vein-ectomy.

Conclusion

Approximately 90 % of the blood returning to the heart from the legs does, so through other leg veins in the deep system. Therefore if the SPV is not functioning properly, and left untreated, the venous circulation in the legs is less efficient and can lead to bigger problems. Example after vein-ectomy.

1. The possible types of the interrelations of the small saphenous vein and popliteal vein revealed with the different somatotypes and gender.

2. Because of number of cranial extension women (21.43 %) patient's higher than male (7.14 %). This result revealed the gender factor has effect on the SPV patterns.

REFERENCES

1. *Elias, S. T.* Treating the small saphenous vein / S. T. Elias, N. E. Khilnani // Endovasc Today. 2008. Vol. 7(8). P. 60–64.

2. Kenhub. 2022. Small saphenous vein. [Online] Available at: <https://www.kenhub.com/en/library/anatomy/ small-saphenous-vein> [Accessed 16 March 2022].

3. K Natsis, M., 2022. Giacomini vein: thigh extension of the small saphenous vein — report of two cases and review of the literature. [Online] PubMed Central (PMC). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4938476/> [Accessed 16 March 2022].

4. *Rossi, G. G.* Small saphenous vein: where does reflux go? / G. G. Rossi, C. E. Belczak, C. Rossi // Jornal Vascular Brasileiro. 2013 Jun. Vol. 12(2). P. 123–128.

5. *Semeniaha, S. A.* Variety in Topography of Small Saphenous Vein in the Popliteal Fossa / S. A. Semeniaha, V. N. Zhdanovich // Problemy Zdorov'ya i Ekologii. 2020 Jan-Mar. Vol 63 (1). P. 39–45.