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## **Vertebroplasty as a Method of Treatment of Spine Hemangiomas**

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DOI: <https://doi.org/10.55248/gengpi.2023.4111>

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Relevance. Recently, the number of identified cases of spinal hemangiomas has increased due to the use of modern neuroimaging examination methods, MRI and CT. Hemangioma (haemangioma (lat.) - a benign tumor of blood vessels) refers to vascular tumors consisting of newly formed blood vessels of the cavernous and capillary types and occurs in 2-3% of cases of all neoplasms of the spinal column [1-5].

The first mention of vascular neoplasms is found in the works of U. Hunter in 1757 [6-9]. Virchow in 1863 was the first to report the discovery in the body of a vertebra of a vascular tumor the size of a hazelnut during an autopsy of an elderly person. In the domestic literature, vascular bone tumors are described by M.F. Matveev in (1886) and P.I. Dyakonov (1889) [5]. In 1895, Gerhardt connects the lower paraplegia that developed in a seventeen-year-old patient with a hemangioma found at autopsy. ThV, ThVI vertebrae, which caused spinal cord compression [10-15]. The description of the x-ray picture of the hemangioma of the spine belongs to Perman.

According to pathoanatomical studies, its frequency is 10.7% [16]. Hemangiomas are localized in any part of the spine, more often in the thoracic region (60-76%), then in the lumbar region (22-29%), extremely rarely in the cervical region (2-11%) and sacrococcygeal (up to 1%) departments (5). More often one vertebra is affected. The average age of patients is about 40 years with a female predominance in the proportion of 3:2. The tumor often affects the vertebral body and can often spread to the arch [17-21].

Puncture vertebroplasty. A turning point in the tactics of treating aggressive hemangiomas occurred when the French neurosurgeon P. Galibert and neuroradiologist H. Deramon developed and put into practice the technique of puncture vertebroplasty in 1984 [21-25]. The essence of the technique is to puncture the body of the affected vertebra, followed by the introduction of radiopaque bone cement. The experience of such operations has shown that filling a hemangioma with bone cement stops tumor growth, reliably stabilizes the vertebral body, and provides a good clinical effect. [26]. Currently, puncture vertebroplasty is the method of choice for the treatment of aggressive spinal hemangiomas. It is used as a separate percutaneous technique, as well as as part of combined interventions. Set for transdermal vertebroplasty includes: a puncture needle with a mandrel, radiopaque cement (based on polymethyl methacrylate), a high-pressure syringe. In the case of a combined intervention with the use of stabilizing systems, it is possible to use hollow cannulated screws. [27].

As a rule, it is impossible to divide hemangiomas into aggressive and non-aggressive according to X-ray data before the development of a compression fracture. Based on this, hemangiomas detected in the supervised patient require additional examination. Computed and magnetic resonance imaging are optimal methods, complementing each other. If the hemangioma has signs of aggressiveness, then in the vast majority of cases it causes the lion's share of the pain syndrome. Expectant tactics in this situation is unacceptable. Such patients should be referred to a specialized neurosurgical institution to determine the timing and scope of surgical intervention. If the hemangioma does not bear signs of aggressiveness, then the pain syndrome and other neurological disorders are most likely due to other vertebrogenic causes. In this case, the detected tumor requires dynamic observation: control CT or MRI once every 12-16 months.

### **References**

1. Abdukholikovich A. M., Mamatkulovich M. A., Abdurakhmonovna M. S. The study of the improved complex neurosurgical treatment in patients with posttraumatic chronic subdural hematomas and hygromas //European science review. – 2016. – №. 1-2. – C. 28-32.
2. Abdukholikovich A. M., Mamatkulovich M. A., Abdurakhmonovna M. S. The study of the results of endolumbal insufflation of ozone and pyracetam in the treatment of posttraumatic epilepsy //European science review. – 2015. – №. 11-12. – C. 29-32.
3. Ravshanov D. M. Optimization of the Results of Surgical Treatment of Parasagittal Meningiomas of the Brain //Texas Journal of Medical Science. – 2022. – T. 10. – C. 48-51.

4. Ravshanov D. M. Optimization of the Results of Surgical Treatment of Parasagittal Meningiomas of the Brain //Texas Journal of Medical Science. – 2022. – Т. 10. – С. 48-51.
5. Norkulov N. U., Shodiev A. Sh., Ravshanov D. M. Determination of the efficacy of the use of nootropes in the treatment of brain concussion in the acute period <https://doi.org/10.17605/OSF.IO/JQF9S>
6. Шодиев А. и др. К особенностям клинического течения и лечения нетравматических внутримозговых кровоизлияний у детей //Журнал проблемы биологии и медицины. – 2018. – №. 2.1 (101). – С. 128-131.
7. Шодиев, А. Ш., Ш. И. Абдувалиев, and З. С. Пардаева. "К ВОПРОСУ КЛИНИЧЕСКОГО ТЕЧЕНИЯ И ЛЕЧЕНИЯ НЕТРАВМАТИЧЕСКИХ ВНУТРИМОЗГОВЫХ КРОВОИЗЛИЯНИЙ У ДЕТЕЙ." *XX ДАВИДЕНКОВСКИЕ ЧТЕНИЯ*. 2018.
8. Абдувалиев, Ш. И., А. Ш. Шодиев, and З. С. Пардаева. "НЕКОТОРЫЕ ОСОБЕННОСТИ КЛИНИЧЕСКОГО ПРОЯВЛЕНИЯ НЕТРАВМАТИЧЕСКИХ ВНУТРИМОЗГОВЫХ КРОВОИЗЛИЯНИЙ У ДЕТЕЙ." *XX ДАВИДЕНКОВСКИЕ ЧТЕНИЯ*. 2018.
9. Aliev, M. A., A. M. Mamadaliev, and S. A. Mamadalieva. "RESEARCH OF ESSENTIAL ELEMENTS COMPOSITION IN THE CEREBROSPINAL FLUID IN PATIENTS WITH OUTCOMES OF TRAUMATIC BRAIN INJURY."
10. Агзамов, М., И. Агзамов, and Ш. Абдувалиев. "Нетравматические внутримозговые кровоизлияния у детей: Клиника, диагностика и методы лечения." *Журнал вестник врача* 1.3 (2017): 30-36.
11. Примов, Зухриддин Амридин Ўгли, Даврон Мавлонович Равшанов, and Амиркул Шодиевич Шодиев. "ДИСК ЧУРРАЛАРИ РИВОЖЛАНГАН БЎЙИН ОСТЕОХОНДРОЗЛАРИНИНГ ЭТИОПАТОГЕНЕЗИ ВА КЛИНИК МАНЗАРАСИ." *Academic research in educational sciences* 2.6 (2021): 578-583.
12. Алиев, М. А., А. М. Мамадалиев, and С. А. Мамадалиева. "ЭФФЕКТИВНОСТЬ ЭНДОЛЮМБАЛЬНОЙ ИНСУФЛЯЦИИ ОЗОНА И ПИРАЦЕТАМА ПРИ ЛЕЧЕНИИ ПОСТТРАВМАТИЧЕСКИХ ЦЕРЕБРАЛЬНЫХ АРАХНОИДИТОВ." *Международный научно-исследовательский журнал* 10 (41) (2015).
13. Алиев, Мансур Абдухоликович, Абдурахмон Маматкулович Мамадалиев, and Саодат Абдурахмоновна Мамадалиева. "Динамические изменения состава макро-и микроэлементов в сыворотке крови у больных с различными последствиями краниocereбральной травмы." *Universum: медицина и фармакология* 12 (23) (2015).
14. Алиев, Мансур Абдухоликович. "АНАЛИЗ МЕТОДОВ ДИАГНОСТИКИ И ВЫБОРА ОПЕРАТИВНЫХ ДОСТУПОВ ПРИ РАЗЛИЧНЫХ ОПУХОЛЯХ СПИННОГО МОЗГА." *Достижения науки и образования* 6 (86) (2022): 76-78.
15. Шодиев, Амиркул Шодиевич. "К ОСОБЕННОСТЯМ ТЕЧЕНИЯ ОПУХОЛЕЙ МОЗЖЕЧКА." *Достижения науки и образования* 6 (86) (2022): 24-27.
16. Aliev, M. A., et al. "The Result of Surgical Treatment of Secondary Stenosis of the Cervical Spinal Canal Due to Instability after Vertebra-Spinal Trauma (Clinical Case)." (2022).
17. Равшанов, Даврон Мавлонович. "ПАРАСАГИТАЛЬНЫЕ МЕНИНГИОМЫ БОЛЬШИХ ПОЛУШАРИЙ ГОЛОВНОГО МОЗГА (ОБЗОР ЛИТЕРАТУРЫ)." *Достижения науки и образования* 6 (86) (2022): 104-106.
18. Набиев, Акмал Адхамжанович. "АНАЛИЗ ИЗМЕНЕНИЙ ПОЛЕЙ ЗРЕНИЯ У БОЛЬНЫХ ОПУХОЛЯМИ ГОЛОВНОГО МОЗГА." *Достижения науки и образования* 6 (86) (2022): 116-119.
19. Норкулов, Нажмиддин Уралович. "РЕЗУЛЬТАТЫ ОФТАЛЬМОЛОГИЧЕСКИХ МЕРОПРИЯТИЙ У НЕЙРООНКОЛОГИЧЕСКИХ БОЛЬНЫХ." *Достижения науки и образования* 6 (86) (2022): 109-111.
20. Aliev, M. A., et al. "Use of Magnetic Resonance Spectroscopy for the Diagnosis of Brain Tumor Recurrence." *Journal of Applied Spectroscopy* 89.5 (2022): 898-904.
21. Саидов, Комрон Жуманазарович. "РЕЗУЛЬТАТЫ АНАЛИЗА НЕВРОЛОГИЧЕСКОЙ СИМПТОМАТИКИ В ОСТРОМ И ОТДАЛЕННОМ ПЕРИОДАХ СОТРЯСЕНИЯ ГОЛОВНОГО МОЗГА У 63 БОЛЬНЫХ." *Достижения науки и образования* 6 (86) (2022): 102-104.
22. Норкулов, Нажмиддин Уралович. "ПРОГНОСТИЧЕСКОЕ ЗНАЧЕНИЕ КОРРЕЛЯЦИИ КЛИНИЧЕСКИХ ПРИЗНАКОВ С ИСХОДОМ ЧЕРЕПНО-МОЗГОВОЙ ТРАВМЫ." *Достижения науки и образования* 6 (86) (2022): 112-113.
23. Шодиев, Амиркул Шодиевич. "К ВОПРОСУ КОМПЛЕКСНОГО ЛЕЧЕНИЯ НЕЙРОЭПИТЕЛИАЛЬНЫХ ОПУХОЛЕЙ ГОЛОВНОГО МОЗГА." *Достижения науки и образования* 6 (86) (2022): 22-24.
24. Набиев, Акмал Адхамжанович. "НЕКОТОРЫЕ АСПЕКТЫ КОМБИНИРОВАННОГО ЛЕЧЕНИЯ ГЛИАЛЬНЫХ ОПУХОЛЕЙ ГОЛОВНОГО МОЗГА." *Достижения науки и образования* 6 (86) (2022): 113-115.
25. Aliev, M. A., A. M. Mamadaliev, and S. A. Mamadalieva. "The effectiveness of endolumbal insufflation of ozone and pyracetam in the treatment of posttraumatic cerebral arachnoiditis." *Международный научно-исследовательский журнал* 10-4 (41) (2015): 45-51.
26. Tashmurodovich, Husanov Zafar. "ANALYSIS OF DIAGNOSTICS AND SELECTION OF SURGERY APPROACHES IN VARIOUS SPINAL CORD TUMORS." *Достижения науки и образования* 6 (86) (2022): 96-98.
27. Juraev, A. M. "TO THE QUESTION OF COMPLEX TREATMENT OF NEUROEPITHELIAL TUMORS OF THE BRAIN." *Достижения науки и образования* (2022): 120.