

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ



**МАТЕРІАЛИ**  
**106-ї підсумкової науково-практичної конференції**  
**з міжнародною участю**  
**професорсько-викладацького колективу**  
**БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ**  
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Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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factors require the development and implementation of new principles of comprehensive treatment of this pathology, taking into account modern technologies.

**The aim of the study.** To optimize the treatment of patients with chronic venous insufficiency of the lower extremities by means of a differentiated approach, taking into account the data of ultrasound examination of the venous system and probable ways of the formation of pathological blood flow.

**Material and methods.** The study included 65 patients (men – 28, women – 37) who were being treated in the surgical department № 1 of the «Chernivtsi Emergency Hospital» with a diagnosis of postthrombophlebotic syndrome (PTFS) for 2019-2023. The average age of the patients was  $55.7 \pm 8.2$  years ( $M \pm \sigma$ ). The distribution of patients according to the clinical classification was as follows: class C2 – in 9 patients, class C3 – in 13, class C4b – in 18, class C5 – in 12, class C6 – in 13. Patients underwent standard methods of clinical examination, coagulogram and ultrasound veins of the lower extremities.

**Results.** It was established that in patients with a history of acute phlebothrombosis and with recanalization of blood flow of less than 55%, blood outflow was carried out through the great saphenous vein (GSV). In these patients, conservative treatment was used in the form of elastic compression (class III), the appointment of venotonics, disaggregants, as well as drugs to improve microcirculation and lymphatic outflow. Suprafascial dissection of perforating veins was performed in 17 (26.2%) patients with an open long-term non-healing trophic ulcer (more than 3 months).

In 50 (76.9%) patients with blood flow recanalization of more than 60%, differentiated surgical treatment was used: in the presence of horizontal reflux – laser suprafascial coagulation in 11 (16.9%) or dissection of perforating veins in 24 (36.9%) patients under ultrasound control, in 15 (23.1%) patients with vertical reflux – endovenous laser coagulation of GSV supplemented by miniphlebectomy and dissection of perforating veins.

**Conclusions.** In patients with PTFS with a high degree of recanalization, it is advisable to perform various methods of surgical interventions both in the subcutaneous system and in the perforating veins. In patients with long non-healing trophic ulcers, it is recommended to perform laser suprafascial coagulation or dissection of perforating veins, which leads to further healing of the ulcer defect in an average of  $12.1 \pm 2.2$  days.

**Shutka V.Ya.**

## **TREATMENT OF MALIGNANT GLIOMAS OF THE BRAIN**

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**Introduction.** Brain tumors make up from 6 to 8.6% of the total number of human neoplasms. The purpose of our work was to study the results of treatment of malignant gliomas of the brain using radiation therapy - Cyber-knife. Cyber-knife is a modern non-invasive radiation therapy technology that provides an alternative to surgical intervention in the localization of gliomas in the median regions of the brain. Despite the fact that the very name of the method may be associated with a scalpel and traditional surgery, this method refers to radiation therapy, that is, it consists in the use of radiation to destroy tumors. At the same time, there are no incisions, scars and complications associated with surgical intervention.

**The aim of the study.** To study the results of different methods of treatment of brain glioma.

**Materials and methods.** An expert evaluation of the treatment of 6 patients with brain tumors by non-invasive radiation therapy and 32 patients by traditional surgical methods for 2019-2023 was studied and carried out.

**Results.** We analyzed the results of treatment of glial brain tumors in 38 patients, 26 men and 12 women aged 36 to 65 years. It has been established that the survival time with conventional treatment (surgery, radiation therapy and chemotherapy) is on average from 9 months to two years, and with Cyberknife therapy from 6 months to 1.5 years.

**Conclusion.** So, according to our data, the main method of treatment remains the surgical method. For a long time, it was believed that surgical removal of a brain tumor is associated with high risk and complications, but in the last 15-20 years there has been a revolution in the technique of neurosurgical operations. However, surgery is not always possible, for example, due to the too large size of the neoplasm, or due to the location of the tumor in a vital area of the cortex. If surgery is not possible, and after surgery, radiation therapy is performed to destroy tumor cells that may remain in the surgical field. Radiation therapy is selected individually and depending on the cellular composition of the tumor, its size and localization.

Vasyuk V.L.

## **TWO STAGE HIP REVISION ARTHROPLASTY USING DIGITAL POLARIZATION MICROSCOPY AND INTRAOPERATIVELY PRODUCED SECOND GENERATION SPACERS**

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**Introduction.** The results of two stage hip revision arthroplasty depend a great deal on accuracy in differentiating septic component instability from aseptic one. Conventionally, it is based on microbiological assessment of joint aspirate or samples from the wound. The results are available in 8-10 days, and in case of anaerobic infection as late as in 2-3 weeks. Using laser sources for diagnosing the septic instability of hip endoprosthesis components showed spectropolarimetry to have the highest sensitivity, specificity, and accuracy: its sensitivity reached 92-93%, specificity – 82-86%, and accuracy – 88-89%. The result is ready in 1-2 hours. In 2012, new reusable molds for intraoperative production of cement spacers with the antibiotics relevant to the patient's antibioticogram were designed by us. Such spacer contained the antibiotics for which the patient's infection was susceptible, and resembled the shape of a monopolar endoprosthesis.

**Aim of the study** was to improve the results of treatment for septic instability of hip endoprosthesis or its components by using digital polarization microscopy of synovial fluid, and intraoperative production and application of second generation antibiotic impregnated cement spacers in accordance with the patient's antibioticogram.

**Materials and methods.** Differential diagnostics of septic or aseptic nature of the endoprosthesis components was performed by means of complex optical and fluorescent assessment of synovial fluid's polycrystalline structure. The sensitivity was shown to be the highest for circular birefringence Mueller-matrix microscopy of polycrystalline component in synovial fluid. The newly designed technique for hip spacer molding using die molds allows to quickly produce a spacer of exact shape and size during surgery. It is done routinely by scrub nurse, saving the surgeon's time. The spacer's head has perfectly spherical smooth surface. Mechanical strength provided by reinforce wires allows postoperative movements and ambulation. High doses of antibiotics according to the patient's pathogen susceptibility were added to the cement.

**Results.** The improved technique of two stage revision hip arthroplasty was used in surgical treatment of 52 patients. Follow-up results were studied in 49 patients (94,2 %) after two stage hip revision. Infection eradication and good functional outcome was achieved in 89.7%. Their mean Harris Hip Score was  $87.18 \pm 6.44$ .

**Conclusions.** 1. A new technique of intraoperative production of second generation cement spacers using the designed die molds was designed by the authors and implemented in treatment of 52 patients. 2. Septic nature of the instability in the endoprosthesis components was diagnosed using circular birefringence Mueller-matrix microscopy of polycrystalline component in synovial fluid. 3. Infection eradication and good functional outcome was achieved in 89.7 %. The mean Harris Hip Score at follow-up was  $87.18 \pm 6.44$ .