МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

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106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
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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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just above the fracture, and in the area of two nearest to the center holes. The flexion force applied ranged from 100 N to 1000 N, and rotational force from 1 Nm to 10 Nm.

Results. The increase of the force caused more intensive stresses in the plate body just above the fracture site and in the area of the nearest hole of the proximal fragment. The stress in SS plate was higher for the most of study cases with some exceptions for area just above the fracture site. Except the central part of a plate, for all less intensive bending loads, the stress areas in SS plate were higher than in titanium plate on 10.9-47.0 %. For the bending loads of higher intensity the difference in stress between plates' materials was 14.3-35.3 %. For the abduction loads the stresses in the SS plate body were higher except the distal part of the plate when less intensive loads were applied. The difference for less intensive loads between SS plate and titanium plate was 0.23-7.0 %. For the highest loads the difference of stress between plate materials ranged from 26.9 % in the proximal part to 45.1 % in the distal part. For rotational forces the difference in stress was not so significant, though it was largest in the proximal fragment. In SS plate stress was higher than in titanium plate on 0.47-4.3%. The displacement of bone fragments was less for SS plates comparing to titanium plates under bending loads on 5 %, abduction loads on 26.4 % and rotational forces on 79.7 %.

Conclusions. By means of computer modelling of titanium and stainless steel plates' fixation of bone fracture under bending and abduction loads in the range of applied forces from 100 N to 1000 N, and rotational forces in the range from 1 Nm to 10 Nm, the less stress areas were found for titanium material compared with SS. On the other hand the displacement of bone fragments was higher for titanium plates, but that difference was not significant for each isolatable applied force. Though in real life scenarios when several forces are combined these differences may become an important factor affecting fracture healing. And the most negative effect on the fracture stability after plate osteosynthesis is expected from the rotational forces, that should be avoided in postoperative period.

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CORRECTION OF TUR SYNDROME

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Introduction. In modern urology, transurethral resection of the prostate (TURP) is recognized as the "gold standard" of prostate surgery and accounts for 95% of surgical interventions for benign prostatic hyperplasia (BPH). The standard indication for performing TURP is the surgeon's confidence that the operation will be performed in no more than 60 minutes.

The aim the study. The risk of operative complications, including bleeding and injury to the capsule with the extravasation of irrigation fluid, increases sharply with increasing duration of surgery and is directly related to the volume of the prostate gland. When the size of the organ is more than 70-80 cm3, the operational risk increases significantly. Mortality in the early postoperative period is up to 1.18% and is associated with concomitant cardiovascular and pulmonary pathology. This indicator is identical for both TURP and open surgery. One of the most frequent and serious complications of transurethral surgical treatment of BPH is transurethral resection syndrome (TUR syndrome). This condition is accompanied by clouding of consciousness, nausea, vomiting, arterial hypertension, bradycardia and a feeling of anxiety. The appearance of this symptomatology is emphasized when the level of sodium in the blood falls below 125 meq/l and is associated with fluid reabsorption during surgery. The risk of Tour's syndrome is directly proportional to the duration of the operation, since the irrigation fluid is absorbed during the resection.

Materials and methods. The recommendations for the prevention and metaphylaxis of TUR syndrome have been developed based on the analysis of clinical and laboratory data in patients with BPH during transurethral resection of the prostate.

35 patients with BPH who developed TUR syndrome during surgery were examined in the endourological center of LSHMD in Chernivtsi. The data on sodium electrolyte status during

operative treatment were analyzed and statistically processed. The age of the patients ranged from 55 to 79 years. All patients were examined laboratory (using clinical and biochemical tests of blood and urine) and sonographically (ultrasound of kidneys, bladder, prostate, measurement of residual urine).

Results. In both groups of patients, a significant decrease in the preoperative rate of glomerular filtration by endogenous creatinine was observed. This indicates compromised kidney function and reduced ability to maintain electrolyte balance. A clear interdependence between the development of the TUR syndrome and the time of the operation was noted. Continuation of surgical intervention after a 90-minute operation carries a significant probability of the development of TUR syndrome. The serum sodium level during its development was 98±5.7 mmol/l. Correction of this condition was carried out by the introduction of hypertonic NaCl solution, hyperosmolar solutions (Reosorbilact, Sorbilact), diuretics and glucocorticoids (hydrocortisone).

Conclusions. 1. The usage of isotonic solutions as an irrigation fluid is essential. 2. It is necessary to try to reduce the time of surgical intervention (due to improvement of surgical technique, use of more advanced equipment). 3. In case of significant impairment of the functional state of the kidneys, it is advisable to carry out preoperative preparation using drugs that improve renal blood circulation and strengthen glomerular filtration in combination with nephroprotectors. 4. During the surgical intervention, metaphylaxis of extravasation of the irrigation fluid by means of perfect hemostasis and maintenance of elevated blood pressure indicators.

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TRANSCUTANEOUS OXIMETRY AS A DIAGNOSTIC METHOD OF THE EFFECTIVENESS OF LASER VAPORIZATION IN PATIENTS WITH ULCERS AND WOUNDS OF THE DIABETIC FOOT

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Introduction. Diabetes mellitus (DM) is a serious international health problem affecting more than 387 million people. A person with diabetes has a 25% lifetime risk of developing a diabetic foot ulcer (DFU). DFU is a chronic wound with impaired healing that is often difficult to manage and increases the risk of future infections. Every sixth patient with DFU will require limb amputation, which in 77% of cases leads to mortality within the next 5 years.

The aim of the study. If we take into account the seriousness of this pathology and its progression, the search for new methods of treatment and management of ulcers and wounds in the ischemic form of diabetic foot syndrome (DFS) is still relevant. Therefore, the purpose of our study is to evaluate the effectiveness of laser vaporization as our proposed adjuvant method of surgical treatment of diabetic foot wounds (DFW) or DFU.

Material and methods. The study included 80 patients with diabetic foot ulcers or wounds on the background of ischemia of the lower extremities. During the study, patients were offered a standard algorithm of treatment procedures which included the main and auxiliary methods of treatment with the addition of laser vaporization as an adjuvant method of surgical treatment of wounds. While evaluating the effectiveness of the proposed method, the indicators of gender and age, the severity of ischemia in the lower extremities, the size and localization of defects in patients with DFS were taken into account. The method of transcutaneous oximetry was used to evaluate the effectiveness of the proposed treatment method. According to international vascular recommendations, TcPO2 values has a practical importance. Clinically, TcPO2 helps to evaluate the severity of ischemia, need for revascularization, potential for wound healing or response to revascularization and can determine the appropriate level of amputation and as the result the healing trend of a post-amputation wound.

Results. According to the design of the study, patients who are included in the inclusion criteria underwent a Doppler scan of the vessels of the lower extremities, measured indicators of the Ankle brachial index (ABI) and transcutaneous oximetry in order to establish the severity of ischemia. Last one was also performed along the perimeter of the ulcer or wound defect.