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ОРГКОМІТЕТ КОНФЕРЕНЦІЇ:

Голова оргкомітету: проф. Колесник Ю.М.

Заступники голови: проф. Туманський В.О., проф. Беленічев І.Ф.

Члени оргкомітету: проф. Візір В.А., доц. Моргунцова С.А., доц. Павлов С.В., доц. Лур'є К.І., доц. Кремзер О.О., доц. Полковніков Ю.Ф., доц. Шишкін М.А., д.біол.н., проф. Разнатовська О.М., ст.викл. Абросімов Ю.Ю., голова студентської ради Турчиненко В.В.

Секретаріат: ас. Данукало М.В., ст.викл. Борсук С.О.

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ULTRASTRUCTURAL CHANGES OF THE COMPONENTS OF THE PERIODONTAL COMPLEX WITH PERIODONTITIS AND HYPERTHYROIDISM

Shcherba V.V.¹, Demkovych A.Ye.²

Scientific supervisor – prof. Korda M. M.

¹ Postgraduate Dentistry Department, ² Department of Prosthetic Dentistry
I. Horbachevsky Ternopil National Medical University

Purpose of the study. To study the features of ultrastructural changes of the components of the periodontal complex in laboratory animals with periodontitis on the background of hyperthyroidism.

Materials and methods. The experiments were carried out on white rats, which were injected into the gums with 40 microliters (1 mg / ml) of E. coli lipopolysaccharide to simulate inflammation in the periodontal tissues for 2 weeks every other day. To simulate the experimental hyperfunction of the thyroid gland, the animals were injected daily intragastrically with L-thyroxine in 1% starch solution at the rate of 10 µg / day per 100 g of body weight for 21 days. To confirm the states of hyperthyroidism in the blood serum of animals, the content of free thyroxine, free triiodothyronine and thyroid-stimulating hormone was determined by the enzyme immunoassay. The sampling of material for electron microscopic studies was carried out according to the generally accepted technique. Ultrathin sections made on an LKB-3 ultramicrotome were stained with a 1% aqueous solution of uranyl acetate, contrasted with lead citrate according to the Reynolds method, and studied under an electron microscope.

The results. Submicroscopic studies of the components of the gums of rats in experimental periodontitis on the background of hyperthyroidism revealed profound destructive changes in all their structural components. In the cells of the basal layer of the epithelial plate of the free area of the gums, karyorexis was determined, deep intussusception of the karyolema of the nuclei was formed, and they acquired a winged shape. Tonofilaments were poorly contoured in the cytoplasm of cells, they were homogeneous. An altered light matrix was found in the altered, swollen, vacuole-like mitochondria, and the cristae were damaged, fragmented, and lysed. The destruction of desmosomal contacts was accompanied by fuzzy contours of plasmol, wide intercellular spaces were formed. The cells of the spiny layer contained coarse, homogeneous bundles of tonofilaments in the cytoplasm, and enlightened areas were present in the paranuclear zone of the cytoplasm. Keratinocytes of the granular layer contained a significant number of different sized osmophilic granules of keratohyalin. Manifestations of keratinization disorders at the ultrastructural level were manifested by an increase in the thickness of the stratum corneum, an increase in the number of horny scales.

Conclusions. Ultrastructural study of the components of the periodontal complex in periodontitis on the background of hyperthyroidism revealed destructive-degenerative and inflammatory changes of the epithelial and own plates of all areas of the gums and periodontium.

KNEE DENERVATION AS A CHRONIC KNEE PAIN PREVENTION METHOD AFTER KNEE ARTHROPLASTY

Bilykh Ye.O.

Scientific supervisor: professor, DSc. Golovakha M.L.

Traumatology and orthopedics department
Zaporizhzhya State Medical University

The aim of the study. To determine the effectiveness of the pain syndrome prevention in the postoperative period after knee arthroplasty with RFNA method.

Materials and methods. In this study, we included 44 patients with knee osteoarthritis of the III-IV stage. In study group patients had arthroplasty of one knee and underwent preoperative modified procedure of the continuous RFNA of the genicular and cutaneous nerves of the incision area under ultrasound guidance. Pain syndrome intensity was evaluated with VAS and its impact on physical activity was scored with WOMAC questionnaire. The possibility of developing of neuropathic pain component according to the Pain DETECT was scored before treatment and in 6 months after surgery.

Results. The results obtained with VAS showed intense pain syndrome in the study group – 8.0 (7.0; 10.0) during preoperative examination and reduction of it in 6 months after arthroplasty in the study group - 2.0 (2.0; 2.0) points. An improvement of the functional capabilities was observed, which was expressed in a significant decrease in the indicator according to the WOMAC questionnaire – 77,00 (71,25; 80,75) points before surgery and 32 (28; 34) points after 6 months. According to the pain DETECT questionnaire evaluating preoperative pain syndrome had neuropathic character, and there was a decrease of scores in compare to preoperative values in study group – 2.0 (2.0; 3.0).

Conclusions. RFNA of the genicular nerves and additional ablation of skin nerves allows more pronounced reduce the intensity of pain in the postoperative period after knee replacement and prevent chronic pain syndrome caused with neuropathic component in terms of 6 months after surgery.

OUR EXPERIENCE IN THE USE OF PRP THERAPY FOR THE TREATMENT OF TRAUMA AND ORTHOPEDIC PATIENTS

El Kandoussi Sara, Maslennikov S.O., Kozhemyaka M.O.
Scientific supervisor - Assistant Maslennikov S.O.
Department of Traumatology and orthopedics
Zaporizhia State Medical University

Introduction. Despite significant advances in the surgical treatment of patients with various injuries of the musculoskeletal system, we still try to resort to surgery last, when all attempts at a conservative solution are unsuccessful. In modern orthopaedics, regenerative medicine methods are relevant, including PRP therapy. Platelet-rich plasma (PRP) is a modern treatment strategy with worldwide recognition. PRP was introduced in the 1950s and is currently used in multiple fields of medicine. There is high concentration of platelet growth factors in small amounts of plasma. This works for offering an "ideal environment" for tissue regeneration and is part of the so-called biological therapy.

The aim of the study was to analyze the results of treatment of patients with pathology of the musculoskeletal system using the PRP method

Materials and methods: in the department of traumatology, patients with various pathologies of the musculoskeletal system were monitored. Patient S., with a diagnosis: fracture of the middle third of the right tibia in the stage of delayed consolidation; patient K., with a diagnosis: bitten wound, trophic wound of the anterior surface of the left Shinbone; patient B., with a diagnosis: bilateral gonarthrosis 1-2 stages, severe pain syndrome on the left. All patients received PRP therapy in the form of local injections of the damaged area.

Results. A patient with gonarthrosis subjectively shows an improvement in his condition and a decrease in pain. The patient refused painkillers. On the VAS scale, pain decreased from 8 points before the start of therapy to 3 points after 3 injections. Objectively: no articular effusion was found, no edema. The range of motion in the knee joint: flexion increased by 58% (95° before treatment, 60° after), extension increased 1.7% (177° before treatment, 180° after). KOOS after therapy: 71% (Symptoms + Stiffness subtotal: 79%; Pain subtotal: 78%; Function, daily living subtotal: 82%; Function, sports and recreational activities subtotal: 40%; Quality of life subtotal: 75%). In a patient with a trophic wound, there is a decrease in perifocal edema and inflammation; at the bottom of the wound, there are areas of growth of granulation tissue. The size of the wound did not decrease significantly, but there is a tendency towards uniform convergence of the edges from all sides. The wound process made it possible to carry out an operation to close the skin defect with an autograft. In a patient with a bone fracture at the stage of delayed consultation, after 3 injections of the PRP into the fracture zone, the formation of a dense periosteal callus, signs of closure of the fracture by secondary fusion of fragments are radiographically noted, which made it possible to expand the function of the lower limb and axial load in the range of 70-80% of the body weight. On the VAS scale, pain decreased from 6 points before the start of therapy to 2 points in the end. Patient monitoring continues. There is a positive trend in all the cases described.

Conclusions. Local PRP therapy exhibits an anti-inflammatory effect, reduces pain syndrome and perifocal edema, and creates conditions for tissue restoration and proliferation by activating the body's own regenerative capabilities, which is confirmed by numerous clinical observations. However, there are still not enough statistical data on effectiveness, which requires continued research and the search for new combinations of therapy.

СУЧАСНІ ПРИНЦИПИ ДІАГНОСТИКИ ТА ЛІКУВАННЯ ТРОМБОЕМБОЛІЇ ЛЕГЕНЕВОЇ АРТЕРІЇ

Будагов Р. І.
Науковий керівник: ас. Матвеев С.О.
Кафедра госпітальної хірургії
Запорізький державний медичний університет

Мета дослідження: на основі аналізу та вивчення актуальних науково-літературних даних, розробити сучасні принципи найбільш раціональної діагностичної та лікувальної тактики при тромбоемболії легеневої артерії (ТЕЛА).