Materials of Conferences

CLINIC CHARACTERISTICS OF PROFESSIONAL BRONCHIAL ASTHMA

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The object of the investigation is to identify the prevalence of professional bronchial asthma among the population of Kursk region and to optimise the therapy of the patients according to GINA 2006.

The methods of the investigation are the analysis of the medical histories of 1512 patients which are registered in Kursk Center of Professional Disease, prospective clinical trial of the patients with professional bronchial asthma.

Results: professional bronchial asthma was detected in 59 cases (4% of the patients with professional diseases), who earlier worked with professional hazard. Women prevail - 75% among the patients. The duration of the disease which is less than 5 years is registered among 14% of the patients, more than 10 years among 76% of the patient population. The majority is the patients of able-bodied population with the age from 30 to 60 – 66%, retirees – 34%. Concerning the level of control the professional bronchial asthma of 51 patients (86%) was partly controled and 8% - uncontroled. Such grades of severity and steps of treatment of professional bronchial asthma were determined: moderate bronchial asthma 2 step of treatment- 8%, bronchial asthma of average severity 3 step of treatment -41%, severe bronchial asthma 4 step of treatment -51% of the patients. Chronic cor pulmonale with Congestive heart failure 2A is diagnosed among 61% of the patients.The ground of the basic therapy is 2 combined medicines: Formoterol/Budesonide (Symbikort) and Salmeterol/ Flutikazone (Seretide). Fenoterol (Berotek N) and Fenoterol/ Ipratropiya bromid (Berodual N) were used according to the requirement. More than the half of the patients recieved Prednizolon enterally (from 10mg to 30mg per day) starting from the first days the disease was detected. All the patients used prolonged theophyllin.

Conclusion: the analysis of the recieved data allowed us to take reasonable steps in order to optimisethe treatment of the patients with professional bronchial asthma. 20 patients (34%) were transfered to the therapy with Symbikort in regimen -SMART (Symbicort Maintenance and Reliever Therapy). In this group of patients the increase of the level of the control of bronchial asthma was noted (the ACT-test was used to estimate the level of control) in comparison with the regimen of the therapy with fixed doses of combined (LABA and ICS) medicines.

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«BOL-CHITAL» - A NEW INNOVATIVE PRODUCT IN MAXILLOFACIAL SURGERY

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Maxillary bones are the most frequent locations of destructive changes, a considerable part of which is located at the level of teeth roots. These foci's development occurrence corresponds to a high level of complex cavities of teeth in the persons of both sexes in all age groups. The bony tissue reparative regeneration processes' optimization is one of the most important problems of reconstructive surgery, in the maxillofacial area, in particular.

The major task after the radicular gnathic cyst surgical removal is the defect correction due to new hard tissue formation stimulation. The operative therapy main method, according to many authors [5], still remains cystectomy with single-step resection of root apexes emerging into the cyst cavity. The resected teeth's function depression, the possibility of reinfection from the cut off microtubules and traumatism should be referred to disadvantages of the operation [6]. Besides, bone cavities lowering the strength of maxillary bones and able to cause functional and esthetic disorders remain after the excision of radicular cysts.

There appeared new trends in the gnathic cysts treatment, such as filling of bone cavities with biocomposite materials after cystectomy to prevent early complications. It is connected with the fact that at a standard operational intervention the blood clot reduction occurs and it often results in the bone cavity infection and subsequent complications. The filling of bone defects of jawbones with biocomposite materials after cystectomy is aimed at:

- the prevention of possible complications connected with the blood clot reduction and disintegration, and also the secondary infection of the wound;
- the optimization of bone tissue regeneration in the defect area and jawbones' form and function recovery.

For this reason, the materials used for the bone cavity filling after cystectomy should possess a range of necessary properties.

First, they should have good biocompatibility factors, be biodegradable and not cause inflammatory response in the patients.

Second, they should possess osteoinductivity, actively make osteoblasts and other mesenchymal cells form the bone.

And third, they should implement and steadily substitute the defect capacity, i.e. perform the osteoconductive function.

To solve these problems many stomatologists use native biocomposite materials as they practically do not trail foreign analogues and their cost is considerably lower than that of the imported ones. So, by the present time, the preparations "Hydroxyapol" and "Colapol" (by the "Polystom" firm), "Collapan-L" (by the "Intermedapatite" firm, "Ostim-100" (by the "Ostim" firm) and a range of other preparations are well studied and widely used in operative dentistry and maxillofacial surgery practice [1, 2, 3, 4]. The carried out bioexperimental studies testified that the material on the basis the chitosan-alginate complex "Bol-chital" also corresponds to all the demands placed on the implantation materials inducing the reparative osteogenesis [11].

The **purpose** of the present research has been the study of possibility of application and the definition of influence of the material on the basis the chitosan-alginate complex "Bol-chital" on bone tissue reparative regeneration processes at gnathic cyst excision.

Material and research methods

The problem set was settled by means of filling bone cavities with gel-auto-blood mass of the chitosan-alginate complex containing sulphated and non-sulphated glycoseaminoglycans, serum factor of cattle stock growth "adgelon". The method was carried out in the following manner according to the procedure developed by the authors [9]. The cyst focalization was defined with the help of OPG and intraoral roentgenograms. Under the local or general anaesthesia a section upon the dental process in the cyst location projection is performed, a mucoperiosteal flap is laminated, the cystectomy and, if needed, radiectomy are performed, the bone cavity is filled with the "Bol-chital" product gel mass after the cyst surgical removal with the following suturing of the wound tightly. The surgical sutures are removed in 6-7 days. 20 patients have been operated on the radicular cysts of maxillary and mandibular bones by the specified method.

Research results and their discussing

During the postoperative period a low-grade postoperative edema of soft facial tissues, insignificant pain sense modality and the alveolar bone's form steady recovery were registered in all the patients. In all the cases in the observed period from 3 months to 1 year a positive clinical effect with a complete (9 patients) or partial (2 patients) jawbone tissue recovery in the defect area was obtained within the average time-limits from 3 to 5 months after the operational intervention.

During the control examination in three months after the operative treatment the defects' contours in the roentgenograms are obscure. The reclaimed bone density approximated the density of the surrounding jawbone, the boundary of the bone and the defect being not seen in separate cases. The reclaimed bone shadow is homogeneous, nonstructural, with multiple small ossification foci and early formation of bone trabeculae.

Conclusion

The laboratory and instrumental control of the reparation proved the advantages of the offered method, which consists in the lack of allergenic properties in the "Bol-chital" product, its high compatibility with the bony tissue, its ability to agglutinate microbial cells and bind toxic products, its biodegradability, little traumatism at the implantation, pain-relieving effect, close sticking to the bone, the bony tissues' blood filling increase due to the formation of new vessels and influence of precursor bone cells on the differentiation.

Thus, the application of the offered method results in the reparative osteogenesis optimization, a quicker recovery of the bony tissue in jawbones' defects, allows performing denture in the patients in earlier terms.

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CHANGES OF ENZYMATIC ACTIVITY OF I AND II TYPE 11β HYDROXYSTEROID DEHYDROGENASE IN PLACENTAS OF GRAVIDAE WITH ACUTE HERPETIC INFECTION

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The hormonal profile change is registered at various infectious processes during gestation (Bazina M.I., 1999; Lutsenko M.T. and others, 2000). Practically always it is attended by cortisol concentration disturbance. The purpose of our work was the given hormone content analysis and its metabolism enzymatic activity estimation in the uterine cake in the course of gestation complicated with a herpetic infection attack.

52 mature placentas taken during the birth process from practically healthy mothers (24 cases) and women undergone laboratory detected herpetic infection attack (28 cases) served as the test material for the study. Depending on the gestation course the material was divided into two groups: control and basic ones. The cortisol study in placental homogenate was carried out by the method of enzyme multiplied immunoassay using the sets of the “Alcor Bio” CJSC (St.-Petersburg) in the spectrophotometer “STAT-Fax 2100” (USA). The detection of 11β hydroxysteroid dehydrogenase (11β-HSD I, 11β-HSD II) was carried out by the method of Lloyd (Lloyd Z. and others, 1982) in modification of the laboratory of etiopathogenesis and respiratory system recovery processes (Dovzhikova I.V., 2007).

When studying the influence of the herpetic infection attack, the cortisol content increase was registered not only in the peripheral blood of the pregnant (Lutsenko M.T., Dovzhikova I.V., Andriyevskaya I.A. and others, 2003), but in the placental homogenate as well. At the growth record of G antibody titer against herpes simplex virus (1: 12800) the material analysis illustrated the hormone amount growth 1,6 times (639,2± 2,70 nmol/l – at the herpetic infection attack; 395,3±1,51 nmol/l –in the control group).

To find out a possible cause of the hormone increased concentration the key insights of its metabolism were analyses. The activity study of the enzyme being responsible for the cortisol transformation into inactive cortisone and so protecting from glucocorticoid (11β-HSD II) abundance was carried out. In the control group the enzyme was detected histochemically in the placental plasmodium and villi, cytophotometrically its concentration in the control made 126,70±2,79 standard units. In the uterine cakes of the mothers with the pregnancy complicated with herpes attack the given 11β hydroxysteroid dehydrogenase isoform activity decrease (36,72±1,59 standard units) was registered. Undoubtedly, it affected the concentration of glucocorticoids, as the lack of II type 11β hydroxysteroid dehydrogenase will affect their hyperproduction.

We analyzed the activity of the enzyme being responsible for another direction of glucocorticoids’ transformation: 11-keto-form into 11-hydroxylic form - I type 11β hydroxysteroid dehydrogenase. Cytophotometrically in the control group the enzyme activity in the ***villi syncytiotrophoblast*** made 41,0± 0,85 standard units. At the herpetic infection attack the intensity of histochemical response to the detection of 11β hydroxysteroid dehydrogenase of the given form rose sharply (159,7± 2,95 standard units), that supposes the increase of cortisol production.

Thus, the herpetic infection episode was attended by changes in the work of various forms of 11β hydroxysteroid dehydrogenase. It was established that a low activity level of the enzymes inactivating corticosteroids in the uterine cake result in the action of high concentrations of glucocrticoids on the fetus (Dodic M. et al.,1999, 2002; Moritz K.M. et al., 2002; Yang K.,1997). A high cortisol concentration in the fetal blood can result in some pathologic processes in adult stage: hypertension, diabetes, adiposis (Alexander B.T., 2006; Myatt L., 2006; Yang K., 1997).

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