

cluding DNA mutations and chromosomal translocations is extremely important for the comprehension of latent period between DNA damage and the appearance of morphological signs of atypia or malignization.

The use of the complex of molecular-biological, immunological and morphological methods in pathoanatomy has lead to a more thorough understanding of the interconnection between the structure and the function, and to the formation of a new line in the development of pathology – functional morphology, which in XXI century is becoming a guiding approach in studying the human body and various diseases morphogenesis.

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IMMUNOLOGY BARRIER IN EPITHELIAL LAYER WITH MICROBIAL CONTAMINATION

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Mechanisms of the immune response in epithelial barriers of the body in response to microbial contamination, and also owing to the effect of other disturbing factors, are the subject of fierce disputes. Singular works on the influence of regulator factors, in particular, cytokines, on the barrier properties of epithelial plates do not solve the problem of cell-to-cell cooperation between lymphocytes and epithelial colony-forming cells at alteration and microbial contamination (Yarilin A.A., 1999).

The biological sense of inflammation as an evolutionally formed process lies in delimitation and elimination of the lesion and causing it pathogenic factors. In the infant state of the infectious agent damage of the epithelial barrier a local inflammatory response progression occurs, redistribution of cells from the blood bed to the inflammatory tissue and intensification of proinflammatory cytokines output (Tsuboushi S., 1981). In the initiation and regulation of cellular and antibody responsiveness macrophages take part by antigen presentation to lymphoid cells and because of their possessing a powerful phagocytic and lytic potential, the presence phagocytotic vesicles in their cytoplasm, the ability to release complement components and also various cytokines output. A macrophage is an elementary cell regulating regenerative processes by cytokines output, the transition from the inflammatory response and alteration of the epithelial barrier to its neogenesis (Yarilin A.A., 1996, 1997,

1999). At the same time the enzymes released by macrophages, proteolytic enzymes in particular, can damage surrounding tissues and give rise to secondary inflammatory alterations, thus promoting the process's chronization in the epithelial plates (Roncucci L., 1988). Macrophages influence cytodifferentiation, migration, poliferation and functions of monocytes, neutrophils and lymphocytes. In the focus of primary acute inflammation macrophages make less than 5% of infiltrative cells, yielding in number to granulocytes. On the second-third day from the beginning of alteration macrophages become a predominant cellular pool of the infiltrate, succeeding quickly tumbling granulocytes. The migration of monocytes from the blood flow into tissues is mediated by the expression of integrin adhesion molecules CD18+ , IL-6, INF- , TNF-a (Ohtsuka Y.,2001) on monocytes and endothelial cells. After the adhesion to endothelial cells and successful cooping of the endothelial barrier by diapedesis and transepithelial migration, the monocyte makes land downstream the affected epithelium region or pocket of infection influenced by the corresponding chemoattractants. The chemoattractant function is performed by the components and decay products of microbes, the bacterial LPS in particular, and also the tissues' breakdown products (Paltsev M.A., 1996). The cells' movement with no such a gradient bears an irregular character and is called "random migration". When binding the LPS/LPB and the cellular form of myelocytes the cell eating of gram-negative bacteria is intensified, the cell-mediated response to low concentrations of LPS. When binding the LPS/LPB and the soluble form of CD14 a triple complex, which is identified by the receptors of endothelial, epithelial and dendritic cells of Langerhans, is formed, and then the induction of the inflammatory response to LPS occurs. Such reactions bear local character and prevent the incidence (Roncucci L., 1988). The binding of the LPS/LPB complex and CD14 monocytes can be over with the LPS internalization without the induction of the inflammatory process.

In the early stage of inflammation the bacterial LPS or the agent of viral nature, affecting epithelial cells, induce the release by epithelial cells of proinflammatory cytokines, IL-1 and TNF-a in particular (Bacon K., 1998). Besides, when damaging the epithelial barrier, macrophages, being antigen-presenting cells and affecting through the receptor apparatus of immunocompetent cells, induce them to release proinflammatory cytokines mediating the activation of specific and nonspecific immune responses, as well.

The number reduction of cells examined in populations' peripheral blood in the acute period of sickness at various virulent diseases attended by the damage and partial damage of mucous coats' and epidermis's epithelial plates cannot be interpreted as a being formed immunodeficiency disease, but should be considered as variable immunodeficiency, due to the fact that the number of immunocytes increases

within the local inflammatory nidus. The given phenomenon is considered as redistribution and activation of immunocytes with local inflammatory nidus in the body. In the opinion of Steinman R. (1999), at tissues' damage and local action of pathogens the regenerative processes are attended by a frank infiltration by lymphocytes, plasma cells, polinuclears, and singular eosinophiles. The author showed that with a pathological focus available, in case of need to release the regeneration process, the activation of lymphopoiesis and migration of lymphocytes from the immunopoesis central organs, which passed the antigen independent differentiation, into the regenerating epithelial plate. The immune cells' migration into the epithelial barrier and through it onto its surface plays an important role in immune and inflammatory processes.

The epithelial barrier's protective function in many ways is defined by the local immunity state, the interaction of the cells of the immune system of the epithelial plates' adjacent collagen structures, and also the number, spectrotype, potency of immunocytes, level of released by them cytokines and other cellular modulators.

References:

1. Paltsev M.A. Cytokines and their role in cell-to-cell cooperation // Arch. of pathology. - 1996. - V.58, №6.-pp.3-6.
2. Yarilin A.A. Scheduled cell death and its place in immune processes // Immunology. - 1996. - №6 - pp.10-23.
3. Yarilin A.A. Cytokines' system of its functioning in health and disease // Immunology - 1997.-№5.-pp.7-13.
4. Yarilin A.A. Contact immune interactions at immune response // Immunology - 1999.-№1.- pp.17-24.
5. Bacon K., Oppenheim J. Chemokines in disease models and pathogenesis//Cytokine Growth factor Rev.-1998.-V.9, N1.-pp.167-173.
6. Callard R., Gearing A., Fan T. The cytokine.- London, 1994.- p. 265.
7. Ohtsuka Y., Lee J., Stamm D et al. MIP-2 secreted by epithelial cells increases neutrophil and lymphocytes recruitment in mouse intestine.// Gut.-2001.-V.49, N4.-pp. 526-543.
8. Roncucci L., Pons de Leon M. The influence of age on colonic epithelial cell proliferation. //Cancer.-1988.-V.62, N11.-pp. 2373-2377.
9. Steinman R., Swanson J. The endocytic activity dendritic cells.// J. E[p. med. -1999.-V.182.-pp.283-288.
10. Tsuboushi S. Kinetics analysis of epithelium cells migration in mouse descending colon// Am. J. Anat.-1981.- V.161, N2.-pp.239-246.

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UPPER RIDGE DEFECT AUTOOSTEOPLASTY IN CHILDREN WITH CONGENITAL CLEFT LIP AND PALATE

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It is acknowledged that in treatment of this pathology a complex approach is necessary: stage repair, orthodontia, logopedia and a complex of rehabilitation actions aimed at the child's adaptation in the society [1].

In the nosogenesis of facial middle zone deflections in patients with congenital cleft lip and palate (CCLP) an important place is taken by: the congenital deflection of upper jaw bone, alveolar bone region upper jaw bone segment and bulb-shaped nasal opening diastasis conditioned in the ontogenesis and progressing in the postnatal period, lip-buccal and guttural ring myodynamic balance failure, disproportion of facial bone in bone sutures [2, 3].

Osteoplasty of the alveolar bone allows repairing these defects partially.

In the question of choice of time of carrying out osteoplastic operations surgeons have no agreement of opinion [4, 7]. We consider incontestable that for full dentition of canine teeth and their introduction to occlusion osteoplasty should be carried out in the period of transitional dentition. But practice testifies that after palatoplasty the upper jaw bone arctation influenced by the draft of cicatrized palatal flaps redoubles and the orthodontic care becomes more complicated. For bimaxillary protrusion autoosteoplasty in is advisable to be carried out in the closing stages of orthodontic care in the period of permanent dentition, and in the period of transitional dentition – to provide so-called promoting "swaying" of the upper jaw fragments in the transversal plane.

It is in our belief that the stability of well-timed orthodontic care results depends on the surgical interference algorithm, autoosteoplasty among them.

The purpose: of the present research is a comparative study of remote results of CCLP children alveolar bone autoosteoplasty carried out in the period of transitional and permanent dentition.

Methods: In the period from 2003 to 2006 surgical interferences on upper ridge bridgework in 29 children with congenital cleft lip and palate had been carried out. There were 12 patients of them in the period of transitional dentition, 17 – in the period of permanent one. All the patients were under orthodontic care. The problems of orthodontic preparation to autoosteoplasty – regular size and shape repair of dentalveolar arch for the purpose of the upper ridge de-