

Literaturservice I-GAP

Parodontose und oxidativer Stress

1: Georgian Med News 2007 Sep;(150):35-8

[Application of Populus Nigra preparations at experimental parodontitis]

Kipiani, N V, Kuchukhidze, Dzh K, Chichua, Z Dzh, Kipiani, V A,
Datunashvili, I V

Severe oxidative stress, developed under experimental periodontitis is accompanied by disturbances in mitochondrial respiration in tissue cells of gingiva, membrane damage and release of Fe(2+) and Mn(2+), leading to the worsening of inflammation process and gingival tissue necrosis. Reduction of free nitric oxide in gingival tissue appeared to be characteristic for experimental parodontitis: decreases local immunity, antimicrobial resistance, and tissue regeneration, disturbs blood supply and tissue trophism, which forwards important role in deepening of inflammation process and wasting of gingival tissue. Application of preparations derived from black poplar (Populus Nigra) gemma standardizes mitochondrial respiration, reduces presentation of inflammation, and considerably improves EPR-spectrum of gingival tissue. Though the complete normalization is not achieved--hazard of peroxidation still remains, the applied preparations, due to their strong **anti-oxidative and anti-inflammatory activities is as an effective and rehabilitative means to tackle gingivitis and peiodontitis.**

2: Stomatologiaa (Mosk) 2006;85(6):19-21

[Efficacy of the use of antioxidant preparation mexidol in comprehensive treatment of inflammatory diseases of parodontium]

Garazha, N N, Garus, Ia N, Ivashova, A V, Sakuro, A A

Examination of 90 patients (52 women and 38 men) in the age range from 25 to 60 with chronic generalized parodontitis of medium severity was done. All examined were divided into 4 groups; 1st - was control, in 3 of them antioxidant preparation mexidol in different forms was used, the. The exercised comprehensive study and treatment of the mentioned above pathology of medium severity with the use of mexidol let us conclude that in comprehensive therapeutical treatment it is necessary to include not only local but also general mexidol use. For mexidol action prolongation it is recommended to use for teeth cleaning the tooth pastes with mexidol.

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3: Eksp Klin Farmakol 2006 Jul-Aug;69(4):51-6

[Pharmacological correction of energy metabolism disturbance in the inflammatory-dystrophic process in the periodontium]

Luk''ianchuk, V D, Shpulina, O A

The influence of lipoic acid on the energy homeostasis in rats with chronic generalized parodontitis has been investigated. Lipoic acid possesses the energy-saving activity, which is related to an increase in oxidative phosphorylation efficiency.

4: Georgian Med News 2005 Nov;(128):31-4

[Microbiological investigations and studies of phagocytic activities of peripheral neutrophils during the treatment of parodontitis by Unimag]

Saralidze, M G, Dzhashi, L M, Tskitishvili, T G, Gogebashvili, N N, Surguladze, B V

During the treatment by Unimag (UN), quantity of microbes in the mouth cavity of patients with periodontitis (PD), significantly decreases in comparison with the patients treated by traditional scheme. That is due to direct and indirect influence of UN on the pathogenic microorganisms. During the treatment of patients with PD by UN, quantity of Gram-negative microbes gradually decreases and their substitution by Gram-positive microbes, typical for mouth cavity, takes place. On the background of the treatment by UN, phagocytic activity (PA) of polynuclear cells (PC) increases. In comparison with the patients treated by traditional scheme, increases both phagocytic number and number of active neutrophils. On 14-15 days after beginning of treatment of patients with PD by traditional scheme, PA of PC does not change significantly. Reduction of the microbial number in the mouth cavity and the active substitution of Gram-negative microbes by Gram-positive microorganisms during the treatment of patients with PD by UN, have prognostic importance and together with the reinforcement of PA of PC indicate to the improvement of the therapeutic effect and shortening of the duration of the treatment.

5: Stomatologiya (Mosk) 2002;81(2):20-2

[Antioxidant Mexidol premedication of patients with periodontitis during antihomotoxic therapy]

Larentsova, L I, Maksimovskii, Iu M, Voronina, T A, Grigorian, K R

The tranquilizing effect of antioxidant mexydol on 95 patients with chronic generalized parodontitis against a background of various somatic

diseases was evaluated. The anxiety and the efficiency of premedication were assessed according to Korach's and Spilberger's scales and according to the special psychological questionnaire. The quantitative characteristics of premedication were given based on the psychological tests results. There was registered a definite improvement of health characteristics and of patient's mood in comparison to the initial input data as well as lower level of their situational anxiety. This proves the tranquilizing effect of premedication with mexidol (5% amp.). The most evident dynamics of these changes can be observed among patients suffering from high initial anxiety level. The findings of the study are based on more than 2 year old history of treatment of 30 patients with traumel. 21 patients suffering from dysfunction of the nervous system were given some comprehensive treatment (traumel locally orally and mexidol in injections). The clinical effect resulted in emotional stabilization of patients and reduced the time needed for their clinical treatment. The medicines were combined. No side effects were observed.

6: Pathol Biol (Paris) 1998 Sep;46(7):571-6

Morphometric analysis of human gingival elastic fibres degradation by human leukocyte elastase protective effect of avocado and soybean unsaponifiables (ASU).

Kut, C, Assoumou, A, Dridi, M, Bonnefoix, M, Gogly, B, Pellat, B, Guillou, G B, Godeau, G

Faculty of Dental Surgery University René Descartes Paris V, Laboratoire de Physiopathologie des tissus non minéralisés, Montrouge, France.

Degradation of preelastic fibres (oxytalan and elaunin) and mature elastic fibres by human leukocyte elastase (HLE) was investigated using automated image analysis. Specimens from two young healthy adults were used. Although HLE hydrolyzed both fibre types, mature elastic fibres exhibited greater susceptibility to this effect than preelastic fibres. Avocado and soybean unsaponifiables are widely prescribed in rheumatology and parodontology and have also been the focus of ex vivo experiments aimed at determining whether they protect elastic fibres against degradation by HLE. Findings from the present study indicate that avocado and soybean unsaponifiables protect all types of gingival elastic fibres from degradation by HLE. Avocado and soybean unsaponifiables may be beneficial in patients with gingival inflammation and parodontitis, since HLE plays a major role in these disease states.

7: Blut 1990 Aug-Sep;61(2-3):60-5

In vitro modulation of normal and diseased human neutrophil function by pentoxifylline.

Boogaerts, M A, Malbrain, S, Meeus, P, van Hove, L, Verhoef, G E

University Hospital, Haematology, Gasthuisberg, Leuven, Belgium.

The influence of pentoxifylline on normal and diseased neutrophil function has been studied in vitro. In high concentrations pentoxifylline stimulated human neutrophil chemotaxis toward both bacterial oligopeptides and complement components. Pentoxifylline was also shown in vitro to restore the normal chemotactic capacity of neutrophils from patients with known

functional defects, i.e. myelodysplastic syndromes, lazy leucocyte syndrome, juvenile parodontitis, hyper-IgE-syndrome and liver cirrhosis. Pentoxifylline was also shown to strongly inhibit the release of primary and secondary granule release of granulocytes. Moreover, pentoxifylline inhibits both basal and stimulated neutrophil adhesion to both aortic and pulmonary artery calf endothelium. The mechanism whereby pentoxifylline exerts this action is not adequately understood. While our results partially imply interference of pentoxifylline with neutrophil cyclic AMP and/or prostaglandin metabolism, down-regulation of neutrophil functional antigen (e.g. CD11, CD18) expression seems to play a key role in the observed drug effects. Finally, these results indicate that pentoxifylline may be useful in the treatment of granulocyte mediated diseases and symptoms.

8: Vopr Med Khim 1987 Jan-Feb;33(1):107-11

[Lipid peroxidation and antioxidant systems in cat periodontal tissues]

Levitskii, A P, Kozlianina, N P, Skliar, V E

Lipid peroxidation and activity of antioxidant systems were studied in parodontium tissues of 64 cats; maximal activation of lipid peroxidation was detected in gingivitis both in gingiva and in alveolar process. Lipid peroxidation tended to normalization in gingiva only under conditions of light form of parodontitis, while in alveolar process--during parodontitis of middle severity. Deterioration of the antioxidant systems in bones during pathological state was **more distinct as compared with gingiva; hence, metabolic alterations, occurred in response to activation of lipid peroxidation in gingivitis, were proceeded in bone structures of alveolar process and after the inflammation decrease in gingiva.**

9: Georgian Med News 2005 Dec;(129):138-41

[Oxidative stress as common pathological phenomenon and possibilities of its correction]

Kipiani, V A, Sanikidze, T V, Kipiani, N V, Pavliashvili, N S, Kipiani, N V

It was shown that disorders of oxidative metabolism play an important role in the pathological processes which develops at subcellular level -- disorder of electron transport at ubichinon-oxidoreductase locus of respiratory chain in mitochondria. The latter could be discussed as common pathological phenomenon determining oxidative stress. It is found that altered synthesis and metabolism of nitric oxide plays an important role in the pathogenesis of oxidative stress. It has been detected the ways and mechanisms of disorders of NO synthesis and conversion. The negative role **of widespread and irrational use of antioxidant therapy and "universal" antioxidant treatment was characterized.**

13: Lik Sprava 2002;(8):66-8

[Antihomotoxic drug therapy of endothelial function disorder in patients with hypertension]

Sakharchuk, I I, Shamugiia, B K, Sidorova, N N, Alekseenko, E I

A multimodality therapy of patients with hypertensive disease involving the institution of basic conventional therapy and antihomotoxic preparations Hepar compositum and Ubichinon composition (Heel, Germany) has been shown to promote restoration of the degree of initial postischemic constriction but without normalization of responsiveness of vessels to the ischemic factor and nitroglycerin. Administration of antihomotoxic drugs exerted apparent optimizing effect on the state of the endothelial function that was manifested by returning parameters characterizing initial postischemic vasoconstriction and maximum postischemic vasodilatation to normal with high responsiveness to the endothelium-independent vasodilator nitroglycerin being maintained.

11: Vet Med Nauki 1976;13(1):29-36

[Nutritive action of flavophospholipol and virginiamycin on broiler pullets]

Drumev, D, Gabrashanski, P, Gakhniian, R, Daskalova, A, Rusev, V

Studied were some of the aspects of the antibiotic treatment with flavophospholipol (moenomycin) as the preparation flavomycin, and virginiamycin (staphylomycin) as the preparation escalin in a premix form as an animal formula. It was found that the antibiotics tested acted as nutrients: they had a positive effect on the growth and feed conversion. They raised the production of meat and improved the quality of the meat product in terms of higher protein and mineral contents. They also influenced favorably the deposition of cyanocobalamin in the liver, the RNA: DNA ratio in the liver and pancreas, and the content of blood proteins. These antibiotics did not lead to the retention of residual amounts in the muscles and viscera. Both preparations proved useful for the practice. Flavophospholipol is of interest thanks to its easier dosing and positive effect on the cyanocobalamin and ubichinon deposition in the liver and partly as its stimulative action.