EFECTOS PATOLÓGICOS CLÍNICOS E HISTOLÓGICOS EN MUCOSA ORAL DE RATAS, CON GELES BLANQUEADORES DE DIFERENTE CONCENTRACIÓN

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RESUMEN

Introduction: tooth whitening treatments have varied side effects associated mainly post-treatment tooth sensitivity or irritation in soft tissues, which the latter effect has not been studied by comparing products based on Peroxides Carbamide or Peroxides Hydrogen, but to each other in low concentrations or in high concentrations. The articles demonstrate that soft tissues exposed to Peroxides Hydrogen high concentrations for short periods presented chemical injury like of erythema and that prolonged periods can cause inflammation and hyperplasia. It has been shown a relation between peroxides contact with soft tissue as an epithelial damage level and the presence of inflammatory infiltrate in the connective tissue. Peroxides present in whitening gels are more oxygen - containing oxide, which decompose and release free radicals known as nascent oxygen, these free radicals are those which originate marked side effects. **Methodology**: We worked based gels using Carbamide and Hydrogen in oral mucosa of 9 male Wistar rats, divided into 3 groups: one of low concentration, another high concentration and a control group. This was done for periods of 1 week with daily applications of 2 hours for the low concentration gel, 30-minute application of high concentration gels and applications of 2 hrs of solid vaselin to the control group, the rats dormant anesthetic sedative. Each working group consisted of 3 rats; application tissues were tongue, upper and lower gum; Hydrogens to low and high concentration in tongue right upper gum, Carbamides to low and high concentration in tongue left and lower gum; in tongue right, left , upper and lower gum solid vaselin as a control. The end of the seventh day the treated tissues were photographed to have caused injury registration in relation to color, number , diameter and surface characteristics of the lesions. Rats were euthanized with anesthetic sedative dose tripled mixture to weight ratio. Biopsied tissues were treated and maintained in 10% formalin for later processed to obtain histological specimens for microscopic evaluation. Samples were analyzed with 4X and 10X magnification considering: vasodilation, increased capillary, capillary congestion,

muscle disintegration, inclusion of air bubbles and infiltrate inflammatory. **Results**: Low concentration gels clinically originated injuries occur primarily as erythematous diameters from 2 to 5 mm. Damage from clinically high concentration gels were leukoplakia lesions with diameters between 3 to 5 mm . In relation to the histological results, to assess the damage with low concentration gels of the type described damage surface erosions, tongue erosions, muscle disintegration mild, slightly congested capillaries. With respect to the histological results with high concentration gels, as described damage epithelial ulcerations, loss of continuity of tissue breakdown of muscle tissue, inflammatory infiltrates, including air bubbles. **Discussion**: If we compare the damage caused by Hydrogen and Carbamide gels of low concentration to one another, we must Carbamide presents clinically mild type injuries, but even tabulated Hydrogen absence of clinical lesions on gums, for example. Both products applied in low concentrations finally presented similar percentages of hydrogen in the degradation end, so we can say that the final concentration of both is almost the same, due to the type of clinical lesion finally registered. When comparing clinical lesions of high concentration gels both Carbamide Hydrogen as we can say that the greatest clinical damage originated with high concentration hydrogen mainly tongue even as contrast having erythematous lesions only in high concentration of Carbamide . Both products have high concentrations applied in different percentages finally in its final degradation Hydrogen 35% and 15% degradation finally as 45 % Carbamide, that may be associated with type of injury caused mostly with Hydrogen to 35%. In assessing the clinical harm caused by one or another product allows us to choose the type of gel to use when making our whitening treatments and to compare not only what we know about the effectiveness of bleaching treatment , the decrease in post-treatment sensitivity and now less damage which originate from the point of view of the soft tissues.

Conclusion: under clinical damage caused by low concentration gels presented with Peroxides Hydrogen to 7%. The lesser clinical damage caused gels occurred with high concentration of Peroxides Carbamide to 45%. The histological effects under low concentrations of Carbamide comparing Hydrogen samples were associated with the application of Hydrogen to 7 %, which mainly showed normal tissue characteristics

with minimum disturbance of surface erosions. With respect to histological effects comparing with high concentrations of Carbamide and Hydrogen we must samples associated with the application of Hydrogen to 35% showed the most damage from histologically such as epithelial ulcers, vasodilation, muscle disintegration, inclusion of bubbles air and moderate or mild inflammatoryinfiltrate.

Keywords: Hydrogen Peroxide, Carbamide Peroxide, oral soft tissues, epithelial, muscle disintegration, inflammatory infiltrates, vasodilatation, increased capillary.