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HISTOFUNCTIONAL CHANGES OF ENAMEL IN ADDITIONAL FURROWS OF MOLARS AT FISSURE-PIT CARIES

Study of odontoglifical intact first upper and lower molars makes it possible to establish the interdependence between odontoglifical features and susceptibility to caries, namely mergers between furrows with natural pits that weaken the enamel and increase the incidence of caries. Significant development of restoration technology in dentistry defines communication odontoglifical picture of human teeth odontopathology.

The most commonly affected by caries upper and lower molars crowns. Study histotopographical features caries process is of considerable interest to the dentist, defined the characteristics of their individual odontoglifical figure of crowns, morphological structure of hard tissues depending on the occlusal surface relief – it starts with the last carious process. Elements of crown declining relative to its occlusal surface presents: fossa, groove, and fissure. Fossa – according to histological studies, is a straight or curved depressions containing PAS-positive substance, and through all the thick enamel. Groove is the formation of less depth than the hole containing acidic homogeneous PAS-positive material and is not enamel-dentine border, and separated by a thin layer of enamel that permeate lamels. In addition, there are: vestibular, mesial, central, distal, dystolingval furrows. Fissures are shallower formation compared to the pits and fissures. They don't reach the enamel-dentine border and is more variable, but there are three options grooves: Duplicate furrows arise between furrows areas located on the border of the main grooves and repeat their direction; transverse grooves – as «bridges» across the crest of the main axial tubercles, perpendicular to the furrows, and sometimes they connect and flow into the fossa; adjacent to the pits grooves that formed «pseudo-fovea», they are fall down at one end into the fossa or furrow and the other end is free and doesn't reach the edge of the ridge. According to our research in complementary and overlapping furrows and grooves observed thickening of the cuticle, or rather its hyperplasia. So, enamel has several zones. In native and stained thin sections zone, partially damaged enamel prisms have a dark strips.

However, additional grooves in the center marked some areas that are painted black, and accordingly, the observed disappearance of PAS-positive structures in the area of caries. This destructive process is observed not only on the surface of the affected structure, but its distribution is more deep grooves. That is in the observations when a carious process in the main furrows, grooves for additional color structures is also affected by the destruction layer of neutral glycoproteins that appears disappearance of PAS-positive structures destroyed enamel to black. Main grooves with additional and duplicate furrows and fosses having such a structure, don't reach the enamel-dentine border, but connected with it lamels. So histotopographics in caries in the foveas and sulcus defined destructive zones: the first dark zone due to destruction of enamel cuticle painted to black by eriochrom-T; second zone consists of PAS positive substance that accumulates in the spaces between furrows by softening in the reticular layer of enamel. Third – light altsian-positive area preserved enamel, which appears unaffected thickening of enamel prisms.

However, the additional and overlapping grooves characterized by stereotypical structure on the main, with histofunctional alternatives to reflect not only changes in the hard tissue surface caries in molars but their compensatory-adaptive character.

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