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Modern methods in treatment of deep caries

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Abstract

Background: Deep carious lesions cause pulpal inflammation, if not managed, they may result in pulp necrosis and involvement of the periradicular tissues, with possible pain requiring, endodontic treatment or extraction.
Material and methods: This study included 35 patients with deep dental caries, 14 males and 21 females with the age range 25-37. The patients are divided into 2 groups. First group – with deep caries treated by capping material "Trioxident" based on mineral trioxide aggregate (MTA), and second group – with deep caries treated using calcium hydroxide.
Results: In our work for the treatment of deep caries, we used the preparations: "Trioxident" based on MTA and "Ultra Blend Plus" based on calcium hydroxide. Applications by material "Ultra Blend Plus" for 3-6 weeks on dentin surface show good results because sterile environment, significant alkaline reaction and calcification of the dentinal tubules. In this regard, it should be noted that the material "Trioxident" does not have porosity in the formed "dentin bridge" and is free from this disadvantage. The use of medical pads with MTA and calcium hydroxide with direct and indirect pulp capping methods did not reveal negative results (complicated caries).
Conclusions: Theoretical data is important for setting correct diagnosis and most suitable protocol of treatment. The described in the article materials – "Trioxident" and "Ultra Blend Plus" provide anti-inflammatory, analgesic and plastic effect. They stimulate the formation of a new secondary dentin layer. The first material – "Trioxident" (based on MTA), in our opinion, is more preferable because it has a number of useful advantages.
Key words: deep caries, treatment, trioxide mineral aggregate, calcium hydroxide.