

## 42. MINIMALLY INVASIVE MANAGEMENT OF DENTAL FLUOROSIS IN ADOLESCENTS: CASE REPORT



**Author:** Zehua Cai; **Co-author:** Pengcheng Cai

**Scientific advisor:** Stepco Elena, PhD, Associate Professor, „Ion Lupan" Department of Pediatric Oral-Maxillofacial Surgery and Pedodontics, *Nicolae Testemițanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** Dental fluorosis is the most common and prominent early-stage symptom of chronic fluorosis, which is caused by excessive fluoride intake during tooth development. It is characterized by the presence of bilateral, diffuse, thin and horizontal striations ranging from immaculate white to brownish brown. In the most severe cases, the enamel may erode or have areas of massive destruction. This condition can affect the quality of life and have psychosocial effects on patients. Aesthetic discoloration of fluoridated teeth can be managed by bleaching, micro-abrasion, infiltration, veneering, or crowning.

**Case statement.** This report presents a case of clinical management of dental fluorosis. A 13-year-old boy presented to the Department of Pediatric Dentistry with complaints of unaesthetic defects on the surface of the teeth. According to the parents, the child is affected by the appearance of the teeth and requests the doctor's intervention to correct the dental aesthetics. The patient was born and lived in a locality with an optimal concentration of fluoride in the drinking water, but every year he spent the three months of his summer vacation at his grandmother's in a locality with a high concentration of fluoride in the drinking water of 5 ppm. The intra-oral examination revealed the characteristic clinical picture of dental fluorosis. The permanent dentition is established. Oral hygiene is perfect. The Tooth Surface Index of Fluorosis score was 4. Taking into account the young age of the patient, it was decided to apply the microabrasion method in combination with the infiltration method of hard dental tissues with resin.

**Discussions.** Microabrasion is indicated for surface opacities, while bleaching can treat opacities deep within the tooth. When these techniques have failed to achieve the desired result, camouflaging the opacity with composite resin may be helpful. New techniques, such as infiltration or opacity sealing, can alter the refractive index of enamel, providing additional treatment options.

**Conclusion.** When selecting the method of aesthetic treatment of teeth with dental fluorosis, the age of the patient, the form of dental fluorosis, and the patient's expectations will be taken into account. The safest, most effective, and minimally invasive methods are enamel microabrasion, resin infiltration, and tooth whitening. Severe forms require more drastic methods, such as dental restorations and crowding, which inevitably require enamel grinding.