

CAN WE APPLY TOPICAL FLUORIDE IN PATIENTS WITH DENTAL FLUOROSIS?

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LETTER TO THE EDITOR

ABSTRACT

Being a double-edged sword that it is, fluoride's role as a caries resistant element can become fatal if its consumption exceeds a certain level. For an element that is consumed at a daily basis through routine oral hygiene care, where does one draw a line in terms of its concentration? This educative narrative answers the most basic clinical questions.

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Dental fluorosis is caused by the excessive intake of fluorides during tooth development. The secretory and maturation phases of enamel formation is when the tooth is most vulnerable to fluorosis. Fluorosis of permanent incisor and molars will most probably occur if high concentrations were ingested during the age of 15-30 months.

When topical fluorides are applied at around 6 years of age, crown formation is nearly completed. Topically applied fluorides produce a temporary layer of calcium fluoride-like material on enamel surface that acts as fluoride reservoir. This prevents the onset of dental caries in primary and permanent dentition.

According to the European Academy of Pediatric Dentistry, the risk of increase in dental fluorosis after application of topical fluorides is low. The only risk of fluorosis during topical application of fluorides is when it is ingested.

The most used professional fluoride products for topical application are 5% sodium fluoride varnish and 1.23 acidulated phosphate fluoride gel. In the presence of pitted enamel in fluorosis, the teeth are more prone to carious attack. This makes the topical application of fluorides in patients with dental fluorosis controversial.¹

Reference

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