

# Dental Fluorosis – a case report

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## Abstract

Dental fluorosis is characterized by the presence of chalky white intrinsic stains on the tooth associated with pitting or mottling of enamel.

**Keywords:** Dental fluorosis, Deans index, Mottling, Hypoplastic enamel.

## 1. Introduction

A 27 year old male came to Department of oral medicine and Radiology, Vinayaka Missions Sankarachariyar Dental College with a Chief complaint of stains on his teeth. Patient history reveals that he hails from Salem district, which is a high fluoride belt region. On intraoral examination chalky white intrinsic stains present with brownish linear bands along the middle third of labial aspect of 11,12,21,22. correlating the history of hailing from fluoride belt region and on intraoral examination intrinsic chalky white areas, a diagnosis of dental fluorosis is made.

Dental fluorosis caused by consumption of fluoride water >1ppm. dental fluorosis causes enamel hypoplasia. Hence pitting of enamel occurs. Fluoride is a double edged weapon. It can increase the solubility of enamel by forming fluoroapatite crystals which are more resistant to degradation by acids or making enamel hypoplastic by interfering with ameloblasts. The severity of dental fluorosis was proposed by Trendly H Dean in 1934.

## 2. Deans index for Dental Fluorosis<sup>1</sup>

Normal -0	Usual translucent, semivitre form, smooth, glossy and usually pale creamy white in colour
Questionable 0.5	Slight aberration from translucency to occasional white spots
Very mild -1	Small opaque paper white areas scattered irregularly over the tooth not involving more than 25 % of the tooth surface. Less than 1-2 mm opacity at tip of summits of cusps of bicuspid or second molars
Mild 2	White opaque areas more extensive less than 50 % of tooth surface
Moderate 3	All enamel surfaces of teeth are affected. Surfaces subject to attrition show wear. Brown staining is usually a disfiguring feature
Severe 4	Major diagnostic sign discrete or confluent pitting and widespread brownish stains. Corroded like appearance

## 2.1 Tooth surface index for dental fluorosis<sup>1</sup>

Grade	criteria
0	Enamel shows no evidence of fluorosis
1	Chalky white discolouration affecting less than one third of tooth surface
2	Chalky white discolouration affecting more than one third but less than two third of tooth surface
3	Chalky white discolouration affecting more than two third of tooth surface
4	Brownish discolouration of tooth surface with Grade 1,Grade 2,Grade 3
5	Discrete pitting /grooves without discolouration of teeth
6	Discrete pitting /grooves with discolouration of teeth
7	Confluent pitting of enamel surface exists;Area of enamel may be missing and anatomy may be altered



4.2 CROWN PREPARATION IN 11,12,21,22



4.3 CERAMIC CROWN LUTED IN 11,12,21,22



## 3. Discussion

Dental fluorosis causes the tooth unsightly chalky white due to enamel hypoplasia with or without pitting or mottling of enamel due to the interference in the process of formation of enamel (Amelogenesis). Dental fluorosis is a reflection of fluoride exposure only during the time of enamel formation and the severity of dental fluorosis depends on the total fluoride dose, time and duration of fluoride exposure. The first year of life was a significant period for dental fluorosis on the maxillary and mandibular central incisors.<sup>2</sup>

## 4. Treatment

Dental fluorosis stains are intrinsic stains that cannot be removed by normal scaling procedures. Hence crown preparation done in 11,12,21,22. metal ceramic crown cemented in 11,12,21,22 which improved the aesthetic appearance of his upper teeth.

### 4.1 PRE TREATMENT INTRAORAL PHOTOGRAPH

## 5. Conclusion

Dental fluorosis is still a common problem encountered among south asian population seeking dental treatment. The unsightly appearance of the teeth makes them to seek dental treatment. Dental awareness must be created

among patients for betterment in their quality of life .

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