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**INTRODUCTION**

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**BACKGROUND**

There is an estimated projected global incidence of 12 million new cases of dental defects in children per year. They are extremely common with a high prevalence estimated at 15% of the childhood population.

**MAJOR TYPES**

1. **Enamel Hypomnialization/ Chalky Teeth:**
   - Insufficient deposits of the mineral calcium during tooth development.
   - Soft and porous, instead of hard and shiny.

2. **Fluorosis:**
   - Occurs due to excessive exposure to Fluoride.

3. **Enamel hypoplasia:**
   - An error in the formation of the enamel
   - Inconsistency in its thickness
   - Depressions on the enamel surface.

4. **Amelogenesis Imperfecta:**
   - Genetic errors are usually to blame for this condition that can affect the entire set of teeth.

**PREVALENCE:**

Molar Hypomineralization has the highest prevalence. Fluorosis is the commonest D3 after Molar Hypomineralization, Enamel hypoplasia on 3rd and Al is least common with 0.01%.

**COMPARING MAJOR D3S**

<table>
<thead>
<tr>
<th>occurrence</th>
<th>Enamel Hypomineralization</th>
<th>Fluorosis</th>
<th>Enamel Hypoplasia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teeth Affected</td>
<td>molar (+ front teeth)</td>
<td>Front teeth mostly</td>
<td>Any tooth</td>
</tr>
<tr>
<td>Risks</td>
<td>Toothache, decay, cosmetic issues mostly</td>
<td>Decay, cosmetic issues</td>
<td>Toothache, decay, cosmetic issues</td>
</tr>
<tr>
<td>Dental Consequences</td>
<td>Fillings, extractions, cosmetic dentistry</td>
<td>Cosmetic dentistry, fillings</td>
<td></td>
</tr>
<tr>
<td>Causes</td>
<td>Infantile Illness, Fluoride excess</td>
<td>Infantile Illness</td>
<td>Genetic mutation</td>
</tr>
</tbody>
</table>

**CONCLUSION**

Therefore, despite major advancement regarding nature of defects and genes involved in enamel defects, further research is required to fill the gaps. Currently, Enamel defects are managed by treating symptoms. Future research should also focus on development of suitable techniques and aesthetic restorative materials that can bond effectively to defected enamel.

**REFERENCES**


**Figure 1** "Molar Hypomin" Shows discoloration of teeth. Created by James Bruke.

**Figure 2** "Fluorosis" Shows teeth which has been exposed to excessive fluoride. Created by Ken Perrott (2017).

**Figure 3** "Enamel Hypoplasia" shows error in the formation of the enamel. Created by Wikipedia (2019).

**Figure 4** "AL" Shows genetic mutation in enamel surface formation. Created by Genetics Home Reference (2019).

**Figure 5** "Rate of Prevalence of Developmental Dental Defects" Created by The D3 Group.