

Forms and Treatment of Hypoplasia

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Hypoplasia is defined as a quantitative defect of enamel visually and is histomorphologically identified as an external defect involving the surface of the enamel and associated with reduced thickness of enamel. The cervical and the incisal borders of the defect have a rounded appearance due to the prisms in the non-affected enamel being bent, which may be attributed to a change in the prism direction. The macro and microscopical appearances suggest that only some specific ameloblasts have ceased to form enamel, whereas others are partly or completely able to fulfil their task. Unlike other abnormalities which affect a vast number of teeth, Turner's hypoplasia usually affects only one tooth in the mouth and it is referred to as a Turner's tooth. If Turner's hypoplasia is found on a canine or a premolar, the most likely cause is an infection that was present when the primary tooth was still in the mouth. Most likely, the primary tooth was heavily decayed and an area of inflamed tissues around the root of the tooth affected the development of the permanent tooth. The appearance of the abnormality will depend on the severity and longevity of the infection. If Turner's hypoplasia is found in the anterior area of the mouth, the most likely cause is a traumatic injury to a primary tooth. The traumatized tooth, which is usually a maxillary central incisor, is pushed into the developing tooth underneath it and consequently affects the formation of enamel. Because of the location of the permanent tooth's developing tooth bud in relation to the primary tooth, the most likely affected area on the permanent tooth is the facial surface. White or yellow discoloration may accompany Turner's hypoplasia. Hypoplasia was categorized into the following types by *Silberman et al.*

Type I hypoplasia: Enamel discoloration due to hypoplasia

Type II hypoplasia: Abnormal coalescence due to hypoplasia

Type III hypoplasia: Some parts of enamel missing due to hypoplasia

Type IV hypoplasia: A combination of previous three types of hypoplasia.

Both dentitions could be affected by enamel hypoplasia; however, the incidence is more severe in permanent dentition. The characteristics of clinical enamel hypoplasia include unfavorable esthetics, higher dentin sensitivity, malocclusion and dental caries susceptibility. The treatment challenge in this type of injury is to promote a complete oral rehabilitation in both esthetics and function. We have come across few cases of unattended hypoplastic teeth which had turned non-vital without any carious insult or trauma. The need for close periodic examination and early detection of all possible developmental defects in the permanent dentition and the importance on preventive measures should be stressed for maintaining the vitality of the tooth. Since information on the microstructural level of enamel hypoplasia is still limited, further studies to be conducted to better understand the mechanisms behind non-vitality.

Key words: *Hypoplasia, forms, Turner's hypoplasia, treatment.*