Complete oral rehabilitation of a young girl suffering with amelogenesis imperfecta in association with analysis of her chromosomal pattern

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DESCRIPTION

Treating the patient with amelogenesis imperfecta is important for functional and psychosocial reasons, especially when the child is suffering with the anomaly in its primary as well as permanent teeth as such conditions cause a deep psychological impact at such a young age (figures 1 and 2).

Composite resins are aesthetic and easy to manipulate, but can cause staining, microleakage, low abrasion resistance and plaque accumulation, so they are more appropriate to use for anomalies limited with enamel and as provisional restorations.

However, porcelain laminate veneers, metal ceramic crowns and all-ceramic crowns are expensive and need extensive tooth preparation. These kinds of restorations also take a long time and are irreversible. Besides, the indirect composite technique could not form proper proximal contact because of interdental spacing between many primary and permanent teeth. Based on this knowledge, a direct composite laminate technique may be an important choice for treatment (figure 3).¹

Figure 1 Pre-operative intraoral view.

Figure 2 Pre-operative orthopantomograph.

Figure 3 Post-operative intraoral view after composite veneering.

The molars were restored with stainless steel crowns (3 M, Unitek US). The crown lengthening was inappropriate at a young age. So it was

Figure 4 Post-operative intraoral view of maxillary arch.

Figure 5 Post-operative intraoral view of the mandibular arch.

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Figure 6 Post-operative orthopantomograph.

compensated by raising the bite by 2 mm and gaining favourable incisal guidance in worn out dentition (figures 4–6).²

A karyotype is of extreme importance in genetic anomalies in order to rule out any associated chromosomal aberrations and isolate any difference from the normal in the chromosomal pattern of the case. However, the obtained pattern showed no significant changes except for the presence of variation in the heterochromatic region in the long arm of chromosome 1 in all the cells of younger sister. Unfortunately, the significance of the same could not be elicited and because of limited resources, further protein isolation or gene mapping could not be performed.

Learning points

- ▶ There is no definitive treatment to restore the aesthetics of cases with such developmental disorders. The complexity of the diagnosis and management of patients with amelogenesis imperfecta (AI) requires careful considerations of patient expectations and requests, their intraoral status and an interdisciplinary approach which is critical for a successful outcome and patient satisfaction.
- ▶ AI has been proved as a genetic anomaly. Therefore the parents should be detailed about the probability of the permanent teeth erupting with the anomaly and presence of such disorders in other individuals of the same family.
- ▶ Genetic counselling is advocated for such cases with such conditions.

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