Genetics and Orthodontics

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ABSTRACT

Growth is the combined result of interaction between several genetic and environmental factors over time and malocclusion is a manifestation of genetic and environmental interaction on the development of the orofacial region.[1,2,3,4,5] It is important to consider genetic factors in orthodontic diagnosis, in order to understand the cause of existing problem, which may also have an infl uence on the fi nal outcome of orthodontic treatment.[6,7,8,9] Generally, malocclusions with a genetic cause are thought to be less amenable to treatment than those with an environmental cause. Greater the genetic component, worse the prognosis for a successful outcome by means of orthodontics intervention.[10,11,12,13,14] Knowing the relative infl uence of genetic and environmental factors would greatly enhance the clinician's ability to treat malocclusions successfully. [15,16,17]

Orthodontists maybe interested in genetics to help understand why a patient has a particular occlusion and consideration of genetic factors is an essential element of diagnosis that underlines virtually all the dentofacial anomalies.[1-11]

- *Malocclusion with a "genetic cause" is generally thought to be less amenable to treatment than those with an "environmental cause". The greater the genetic component, the worse the prognosis for a successful outcome by means of orthodontic intervention.[[1-7]*

- *In recent times, malocclusions of genetic origin (skeletal discrepancies) when detected in growing period, are being successfully treated using orthopedic and functional appliances, except in extreme cases where surgical intervention is required. [6,8,9,12,14,15]*
- *When malocclusion is primarily of genetic origin, for example, severe mandibular prognathism then treatment will be palliative or surgical. [16,17]*
- *Examination of parents and older siblings can give*

information regarding the treatment need for a child nand treatment can be begun at an early age.

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