

THE RELATIONSHIP BETWEEN SALIVARY LEPTIN LEVELS AND FACIAL SKELETAL PATTERN: A PREFATORY STUDY

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ABSTRACT

Background: Leptin hormone is a key regulator of several physiological pathways including inflammation, bone metabolism and the metabolism of fat and energy stores. It has been concluded that leptin plays a significant role in bone formation through the activation of osteoblasts. There is however an apparent gap in the literature regarding leptin role and its association with the facial skeletal pattern that is heavily related to the dynamic of growth, bone deposition and bone resorption. This pilot study hopes to provide initial information on leptin in this aspect.

Objective: The aim of this study was to assess and compare the salivary leptin hormone levels between different classes of facial skeletal pattern (Class I, II and III).

Methodology: A sample of 62 patients were selected prior to the orthodontic treatment from a population that attended the International Islamic University Malaysia (IIUM) Specialist Orthodontic Clinic. Based on the analysis lateral cephalometric analysis, the subjects were grouped into Class I, Class II and Class III facial skeletal patterns, according to Eastman and Wits appraisal. Subsequently, unstimulated saliva samples were taken and purified to undergo leptin enzyme-linked immunosorbent assay (ELISA) analysis to determine the levels of leptin hormone.

Results: The results showed that there was a significant difference between the levels of salivary leptin hormone between the different classes of facial skeletal pattern. There was a significant difference between the levels of leptin hormone between Class I and Class II skeletal patterns($p=0.004$); and between Class I and Class III facial skeletal patterns($p=0.003$). No statistical difference was noted between the levels of leptin of Class II and Class III facial skeletal patterns($p=0.681$).

Conclusion: Leptin hormone levels are higher in patients with Class II and Class III facial skeletal patterns compared to Class I.

Keywords: Salivary leptin, Facial ske