

# **THE CHARACTERISTIC FEATURES OF SKELETAL CLASS III IN IRAQI ADULT ORTHODONTIC PATIENTS**

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## **Abstract**

Skeletal class III malocclusion is one of the most severe dentofacial anomalies.

It is associated with a deviation in the sagittal relationship of the maxilla and the mandible. This study was performed to determine the characteristic features of skeletal class III in a sample of orthodontic patients compared with skeletal class I.

The skeletal class III sample included **100** pretreatment digital lateral cephalometric radiographs (18-29) years who were selected on the basis of Beta angle [ $> 35^\circ$ ] and divided into five groups according to the location of maxilla and mandible in relation to the anterior cranial base (SNA and SNB angles).

Another **45** radiographs were selected as a control group (normal SNA and SNB angles, Beta angle  $27^\circ$ - $35^\circ$ ).

Fourteen angular and eight linear measurements were digitized and recorded using AutoCAD **2010** computer program and the following results were found:

On comparison with skeletal class I (control), Anterior cranial base length was found to be shorter, the gonial angle was found to be significantly more obtuse, no significant difference was found in the articular angle and upper anterior facial height.

All class III groups showed further labially inclined upper incisor and the lower incisor is significantly inclined further lingually.

Skeletal Class III showed various profiles and different skeletal growth patterns.

The prognathism of both jaws was the most common type (43%) with the most horizontal growth pattern and protruded profile, followed by the retrognathism of both jaws (20%) with the most vertical growth pattern and a retruded profile.

Whereas 17% of the collected sample had a normal positioned maxilla and protruded mandible and displayed a horizontal growth pattern with a protruded profile.

The pure retruded maxilla formed 12% of the collected sample and the least type was the combined maxillary retrognathism and mandibular prognathism (8%); and both showed a vertical growth pattern with a protruded profile which was extremely obvious in the latest one.