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CEPHALOMETRIC ASSESSMENT OF SAGITTAL DYSPLASIA USING W ANGLE, YEN ANGLE, PI LINEAR AND PI ANGLE IN CLASS II DIV 1 PATIENTS TREATED WITH MYOFUNCTIONAL APPLIANCES (TWIN BLOCK): A RETROSPECTIVE STUDY

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Dissertation Submitted to the
Shri Dharmasthala Manjunatheshwara University, Dharwad, Karnataka,

In partial fulfilment
of the requirements for the degree of

MASTER OF DENTAL SURGERY (M.D.S)

In

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

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MAY 2022

ABSTRACT

Background and Objectives: In diagnosis and treatment planning of skeletal malocclusions, an accurate evaluation of anteroposterior jaw relationships is critically important, and this relationship is generally determined by cephalometric analysis.

Sagittal jaw relationships are difficult to evaluate because of rotations of the jaws during growth, vertical relationships between the jaws and the reference planes, and a lack of validity of the methods proposed for their evaluation. To overcome these drawbacks, newer indicators for anteroposterior discrepancy have been introduced, such as W angle, YEN angle, etc. The objectives of this study are:

1. Evaluate 3 angular (W angle, YEN angle, Pi angle) and 1 linear (Pi linear) measurement in sagittal / anteroposterior dysplasia
2. To compare and correlate the angular and linear parameters
3. To evaluate which of the above mentioned parameters best predicts the sagittal correction after twin block therapy (Comparison to ANB angle)

Methods: Records were obtained from the Department of Orthodontics and Dentofacial Orthopedics, S.D.M College of Dental Sciences, Sattur, Dharwad. Four angular and one linear parameter were recorded for both sets of cephalograms and were compared and evaluated.

Result: All the 4 angular and the linear parameters (YEN angle, W angle, Pi angle, ANB angle and Pi linear) considered in our study are reliable in assessing skeletal sagittal discrepancy ($p<0.01$).

Interpretation & Conclusion: All the parameters considered in our study showed highly significant difference in pre-treatment and post-functional values, suggesting their reliability. For diagnosis and treatment planning of Class II malocclusions, W angle is the most sensitive indicator. YEN angle showed the maximum change post twin block therapy and therefore may reliably be used to predict the post-functional change in the assessment of anteroposterior dysplasia.

Keywords: YEN angle, W angle, Pi angle, Pi linear, anteroposterior discrepancy, Twin Block, ANB angle