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Evaluating Pi Angle Efficacy Against Established Cephalometric Angular Parameters

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Introduction

Cephalometrics is crucial for orthodontic diagnosis. It employs angular measurements like the ANB, Beta, Yen, and W angles to evaluate jaw relations, each with its limitations. Our study introduced the **Pi angle**, assessing its predictability against these traditional metrics in a South Indian population. We aimed to identify the most accurate indicator for sagittal skeletal discrepancies.

Materials & Methods

Lateral cephalometric radiographs from 150 untreated orthodontic subjects were analyzed.

Subjects were categorized into Classes I, II, and III based on their ANB angle.

Measurements of Pi angle, Yen angle, W angle, and Beta angle were taken for each subject.

Statistical analyses, including ANOVA and correlation coefficient analysis, was done to assess the significance and predictability of these angles.

Results

Yen angle emerged as a significant determinant for differentiating between the three skeletal groups.

The Pi angle showed 66% predictability for Class I, but only 16% and 24% for Class II and Class III, respectively.

The Beta angle was most predictable for Class II and Class III subjects.

Significant correlations were observed between various angles, differing by class.

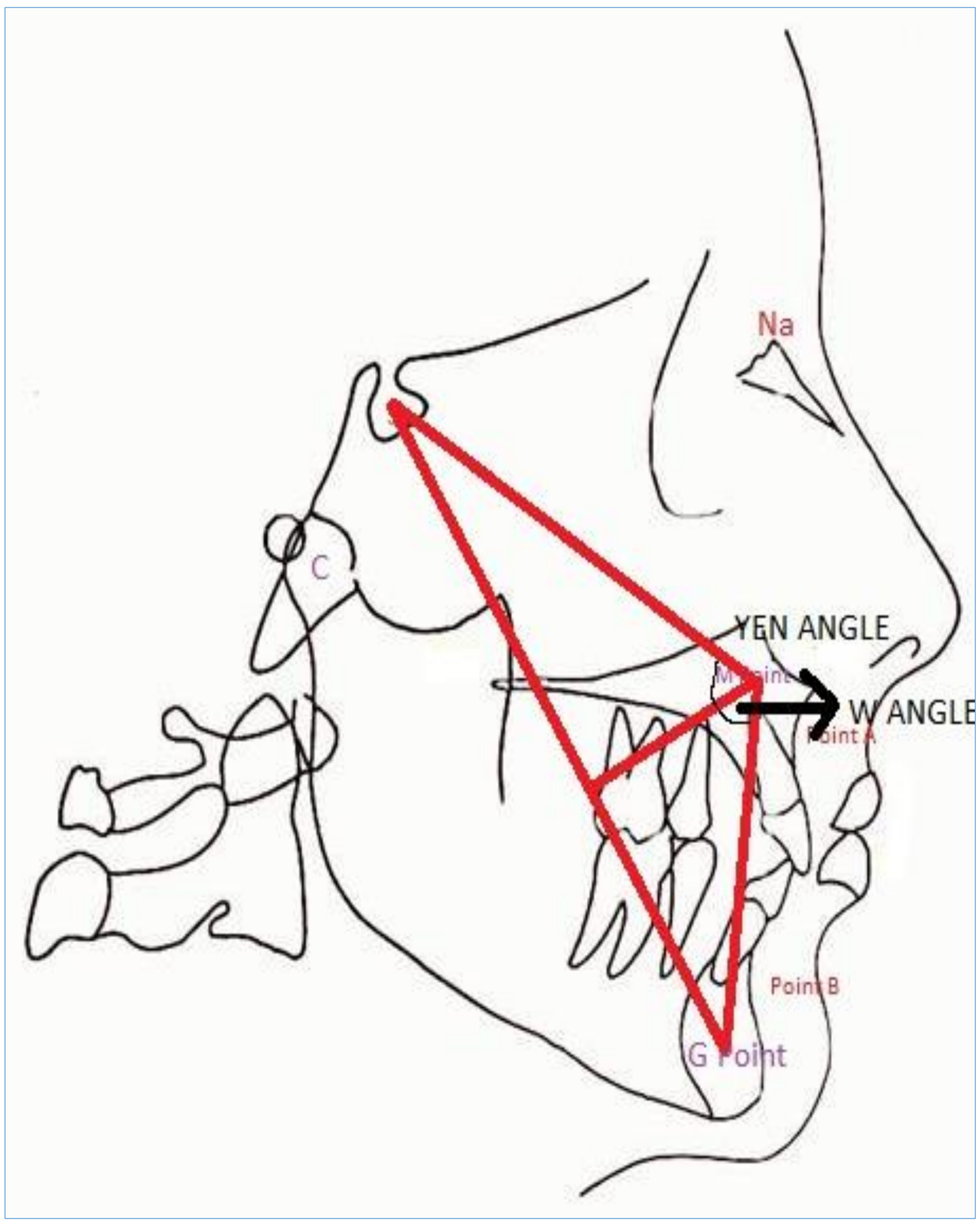

Figure 1. Yen angle

Conclusion

The Pi and Yen angles were most significant for differentiating Class I subjects. Pi angle was less predictable for Classes II and III. The Beta angle was more predictable for Class II and Class III subjects.