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Correlation between Gonial Angle and Different Variables after Bilateral Sagittal Split Ramus Osteotomy

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Abstract:

Statement of problem: The gonial angle plays an important role in ensuring a harmonious facial profile. Changes in this angle especially after surgery may be an aesthetic concern for both the patient and the surgeon. Purpose: The aim of the present study was to evaluate gonial angle changes after mandibular setback with the BSSRO technique and to measure postsurgical relapse two years after surgery. Material and Methods: Nineteen patients with mandibular prognathism referred to Taleghani Hospital were selected from 1999 to 2001. All subjects underwent surgery for mandibular setback with the BSSRO technique and IMF for 8 weeks. Lateral cephalograms were taken before surgery, immediately postoperatively and 2–4 years after surgery. The setback rate (relapse) and gonial angle changes were evaluated during these periods. Pearson correlation and student t tests were used for statistical analysis. Results: The mean gonial angle decreased in all subjects, it was 135.05° (6.41) before and 128.73° (5.43) after surgery. The mean reduction of the gonial angle was 6.32° (4.08) immediately after surgery while it showed 4.89° (3.44) decrease after 2 years follow-up at the final examination. The mean of setback was 6.27 (2.28) mm which decreased to 5.82 (1.82) mm after follow-up. A significant correlation was observed between the amount of setback and reduction of the gonial angle (P=0.0001) but no correlation was found between sex and gonial angle changes or mandibular setback relapse. Conclusion: Surgical correction of mandibular prognathism using BSSRO and IMF can cause a decrease in the gonial angle. This increase in the setback, may reduce the gonial angle and have correlation to the amount of relapse.

Keywords:

[BSSRO](#) , [Mandibular Setback](#) , [Gonial angle](#)

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