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Quantitative Assessment of Radioisotope Uptake in Condyles by SPECT Bone Scintigraphy

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Abstract:

Statement of problem: Condylar hyperplasia of the mandible is a self limiting abnormality which can cause facial asymmetry, temporomandibular joint (TMJ) dysfunction and esthetic problems. Treatment planning is based on the results of isotope scanning, clinical findings and patient age. Single photon emission tomography (SPECT) is considered to be a sensitive method in the calculation of condylar uptake differences. Purpose: The aim of this study was to determine the growth activity occurring in the mandibular condyles, and to devise an index of side-to-side differences in condylar activity in different individuals. Material and Methods: 38 patients, with an age range of 13 to 34 years, undergoing skeletal scintigraphy for a variety of conditions, were chosen for this study. 25 mci TC-99 was injected to all subjects in order to assess the difference between right (Rt) and left (Lt) condylar uptake percentage and to calculate the Lt to Rt condylar uptake ratio. The normal index was determined. Results: The maximum amount of difference between the uptake of Rt and Lt condyles was 6.2 percent (Lt side and Rt side were 53.1 % and 46.9 %, respectively) in the male patients and 5.7 percent in the female patients (Lt side and Rt side were 52.85 % and 47.15 %, respectively). The condylar activity difference and ratio of Lt to Rt condylar uptakes did not show a significant difference between the male and female groups. Conclusion: The difference between the growth activity of RT and LT normal TMJs was less than 6.2 percent.

Keywords:

[Mandibular condyle](#) . [Radionuclide imaging](#) . [Tomography](#)

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