Treatment of Mandibular Keloids Using the Micro-Trephine Punch Technique, Alone or with Excision, Followed by Radiotherapy

Jian Zhong Peng, MD[1] , Xian Yan Luo, MD[1]

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[1]Department of Dermatology, Hangzhou Third People's Hospital, No 38, West lake avenue, Hangzhou, Zhejiang, China,310009.

Running Title
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BACKGROUND
Mandibular keloids significantly impair the appearance and psychological well-being of patients, and their treatment remains a challenging issue. This study aimed to evaluate the clinical efficacy of mini-punch surgery combined with radiotherapy (RT) for treating mandibular keloids.

METHODS
A total of 16 patients with mandibular keloids were included in this study. Initially, they underwent mini-punch surgery, followed by RT within 24 hours post-surgery. The RT regimen consisted of four fractions, administered every other day at a dose of 5 Gy per fraction. The Vancouver Scar Scale (VSS), Patient and Observer Scar Assessment Scale (POSAS) 2.1 Patient scale, and Physician's Subjective Assessment (PSA) were assessed pre-operatively and at 1-year follow-up post-treatment.

RESULTS
At 1-year follow-up, 68.75% (11/16) of patients reported a self-assessment improvement of over 75% compared to baseline. The mean pre-treatment VSS score was 9.31 ± 0.45, which decreased to 3.81 ± 0.67 post-treatment. The postoperative VSS score at 1-year follow-up was significantly lower than the pre-treatment score ($p < 0.001$). Additionally, the mean pre-treatment POSAS 2.1 Patient scale score was 18.06 ± 0.99, decreasing to 7.0 ± 1.47 post-treatment ($p < 0.001$).

CONCLUSİON
The micro-trephine punch technique, either alone or in combination with surgical excision, represents an effective treatment option for scattered and extensive mandibular keloids.