

Endotine® Midface for Soft Tissue Resuspension in Zygoma Fracture

: an Eight-Year Review

Purpose

Subperiosteal exposure of the fractured zygomatic bone is essential in the process of accurate reduction^{1,2}. However, extensive degloving of the facial skeleton may cause soft tissue ptosis. Only within the past 20 years have surgeons become interested in the importance of soft tissue redraping after reduction³⁻⁵. The authors review their eight-year experience applying Endotine® midface, a bioabsorbable suspension device, in resuspension of the cheek soft tissue of zygomatic fracture patients.

Methods and materials

All patients who received open reduction and internal fixation for their zygomatic fracture between January, 2006 to December, 2013 at our center were included in this study. The Endotine® midface device(Coapt Systems, Palo Alto, CA, USA) is a bioabsorbable polylactide polymer that consists of a platform with five tines, each 4.5mm in length, and a long, slender leash with holes for screw fixation. Patients were divided into control group and Endotine group. The difference of operation technique in Endotine group was soft tissue resuspension using Endotine midface. The surgical results were evaluated with patients' satisfaction score, surgeon evaluation score from clinical photographs and measurement from computed tomography(CT). There being no standard tool in assessment of cheek ptosis, the authors compared ratio of both side(non-operation side versus operation side) in one patient with measurement of soft tissue thickness at the middle level of nasolabial fold between the groups(Figure 1).

Results

A total of 83 patients were included in this study according to inclusion and exclusion criteria(Control group : 22 male, 17 female / Endotine group : 25 male, 18 female). Statistical analyses were conducted with an independent sample *t*-test, and $p < 0.05$ was considered significant. The mean age between the groups showed no significant difference. Both patients' satisfaction and surgeon evaluation showed significant better scores in Endotine group. And CT measurement was 1.04 ± 0.03 in Endotine group, which was significantly lower than control group(1.18 ± 0.09)

Discussion & Conclusion

The authors have applied Endotine® midface in repositioning the elevated cheek flap in zygomatic fracture patients, with excellent results. The device is easy to apply and provides secure fixation without complications, and our suspension procedure can be one good option in preventing soft tissue

relating complications after zygoma fracture.

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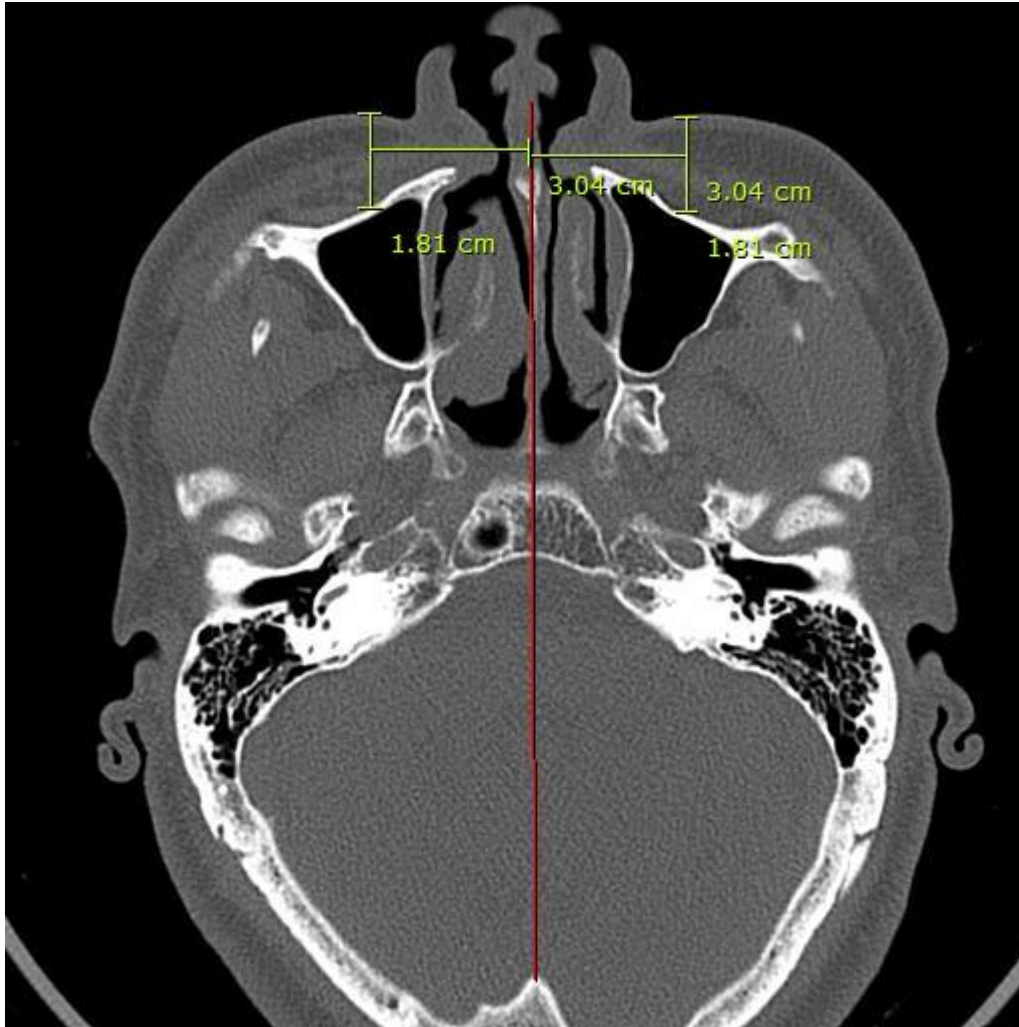


Figure 1 In this patients, soft tissue thickness of both side is measured as 1.81 cm. note the perpendicular red line from nasal septum to middle of occipital bone and horizontal green line of 3.04 cm long used as a tool for symmetric measurement of both side.