



Less Time, Better Outcomes: The Case for Soft Tissue Flaps in Condyle-less Mandibular Osteoradionecrosis

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Purpose

Osteoradionecrosis (ORN) of the mandible, a consequence of head and neck radiation, often necessitates extensive resections. While bony flap reconstructions (BFRs) are typically favored for patients with an intact condyle (Class I), the optimal approach for patients with a sacrificed condyle (Class II) remains uncertain.

Methods

We conducted a 30-year retrospective analysis of mandibular ORNs with sacrificed condyles, from 1994 to 2023, to compare the outcomes of BFRs versus soft-tissue flap reconstructions (SFRs).

Results

Among 74 cases, 46 (62%) underwent SFRs, Table . Although concomitant skin defects (Complex cases) were more common in SFRs (80% vs. 50%, p=0.006), SFRs had a significantly shorter operative time, Table 2. Donor, recipient, and microsurgical complications were similar between both groups. Nonetheless, in patients who did not tolerate a regular diet, SFRs were an independent predictor of tolerating soft rather than liquid diet (Odds ratio=0.0, p<0.00).

Bone flaps	N (%)	Soft tissue flaps	N (%)
Fibula	2 (75)	ALT +/- VL	25 (54)
DCIA	2 (7.)	VRAM	6 (3)
Fibula + ALT/AMT +/- VL	2 (7.)	Pectoralis Major	5 ()
Fibula + RFF + Pectoralis Major	(3.6)	ALT Chimeric	3 (6.5)
Fibula Chimeric + Pectoralis Major	(3.6)	ALT + TFL	2 (4.3)
Fibula OC Chimeric	(3.6)	ALT + Pectoralis Major	(2.2)
		ALT + Rotational flap	(2.2)
		LD (Free or Chimeric)	2 (4.3)
		RFF	(2.2)

Table 1 . Free flaps used for reconstruction of Class II defects. .

	Bone, N (%) = 28 (38)	Soft tissue, N (%) = 46 (62)	p
Operative time, Median (IQR)	588 (527, 783)	472 (32, 582)	<0.00
Donor site complications	0 (0)	(2.2)	>0.99
Flap loss			0.45
Partial	(3.6)	(2.2)	>0.99
Total	3 ()	2 (4.3)	>0.36
Recipient site complications	5 (8)	3 (28)	0.3
Microsurgical complications	3 ()	3 (6.5)	0.67
Tube-dependent feeds	9 (32)	7 (37)	0.67
≤50% Intelligible speech	2 (7.)	3 (6.5)	>0.99

Table 2. Operative and functional outcomes.

Conclusions

SFRs can aptly address complex Class II defects, requiring less operative time, and conferring a significant advantage in patients who fail to tolerate a regular diet postoperatively.

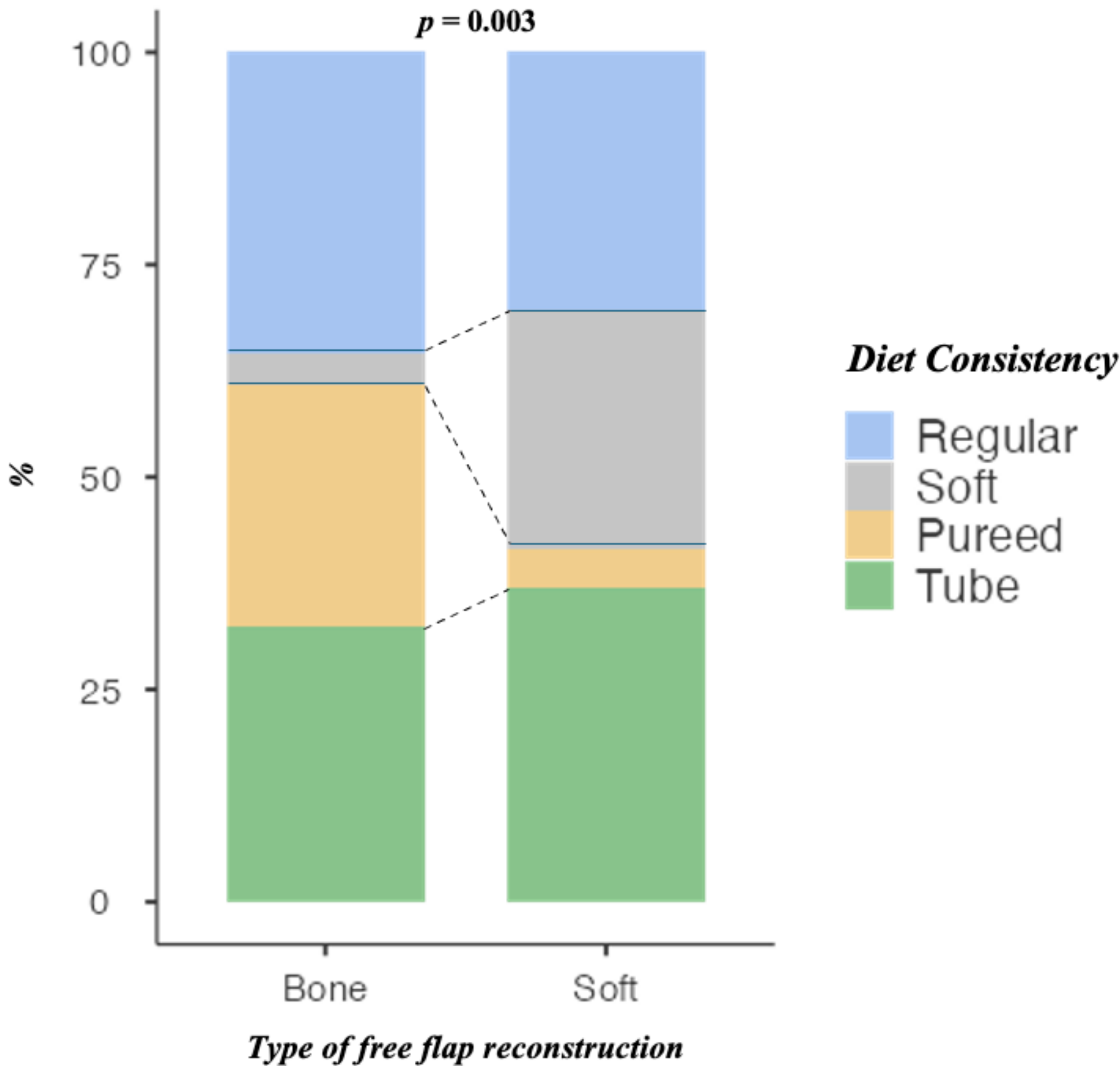


Figure. Diet consistency at last follow-up.



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