치근절제술을 활용한 발치 전 연조직 처치

Pre-Extraction Soft Tissue Management Using Root Resection

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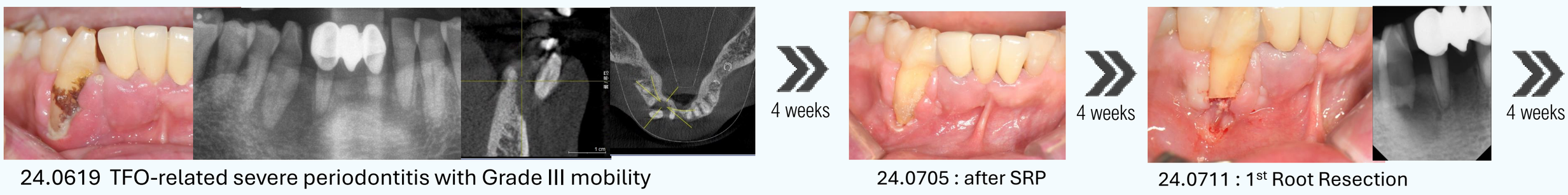
Background

Extracting a hopeless tooth with severe bone and tissue damage often leads to significant defects, requiring multiple surgeries like GBR and soft tissue grafting. Pre-treatment with root resection can minimize tissue loss, preserving keratinized gingiva and reducing defect severity, creating a more favorable foundation for future treatments.

Case 1 : #43 presented with severe gingival recession extending beyond the mucogingival junction (MGJ) to the root apex due to TFO-related periodontal disease. To improve the condition of the keratinized gingiva and create a more favorable foundation for future bone grafting, a stepwise root resection approach was taken, gradually removing portions of the root over multiple stages, accompanied by periodontal management.



24.0619 TFO-related severe periodontitis with Grade III mobility

24.0705 : after SRP

24.0711 : 1st Root Resection

24.0814 2nd root resection was performed

24.0830 3rd root resection(trimming) was performed

24.0913 4th trimming

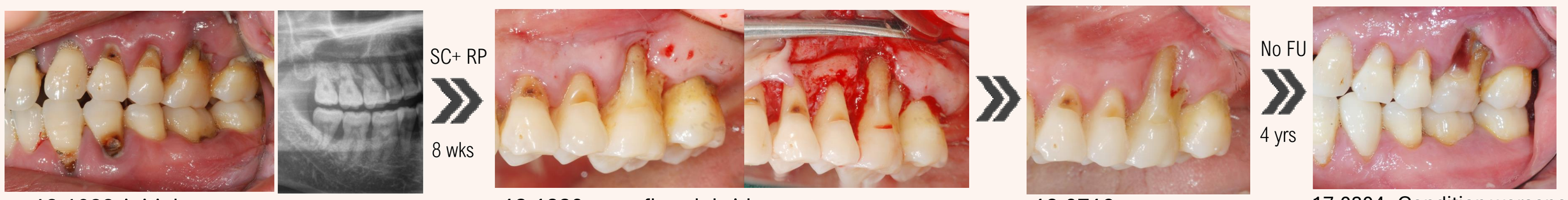
24.1113

25.0120 7-month f/u after Initial (hopeless)

25.0415 10-month f/u after Initial Hopeless diagnosis

This site is scheduled for GBR. Although internal bone formation has not occurred, soft tissue has improved, making the site more favorable for future GBR.

Case 2 : A 55-year-old male patient with severe periodontitis had been under supportive periodontal care for 10 years, but reached a stage where extraction of 16 teeth became unavoidable. Buccal alveolar bone loss led to gingival recession reaching the MGJ, resulting in insufficient keratinized tissue. Immediate extraction would have caused significant defects. To prevent this, serial root resections were performed to improve keratinized gingiva on the buccal side. As a result, the teeth are now ready for GBR after extraction.



12.1023 initial

12.1220 open flap debridement

13.0716

17.0204 Condition worsened

20.0902 diagnosed as HOPELESS, 1st root resection(R.R) on MB & DB root

20.1008

20.1111 : additional R.R

22.0602 : 21-month f/u

22.1118 26-month f/u after 1st R.R.

23.0209 30-month after R.R

25.0307 54-month after R.R

#16 and #17 are planned for extraction and implant placement soon. The current improved soft tissue condition allows for easier surgical access than at the initial visit

Case 3 : Tooth #46, affected by severe periodontitis, had significant buccal bone loss and gingival recession. To enhance keratinized gingiva before extraction, a staged root resection was performed—first removing the mesiobuccal (MB) root, then the distobuccal (DB) root two months later. This approach improved both hard and soft tissue conditions, allowing implant placement two weeks after extraction. Without root resection, multiple surgical procedures would have been needed post-extraction.

20.0214 Initial

20.0410 after SRP

21.1217 TFO-related periodontal condition worsened

At this stage, #46 tooth begins to undergo pre-extraction preparation to improve the condition of the keratinized gingiva, with the extraction in mind.

22.0104 1st Root Resection on MB root performed

22.0208

22.0303 8wks after 1st R.R : Additional DB root resection

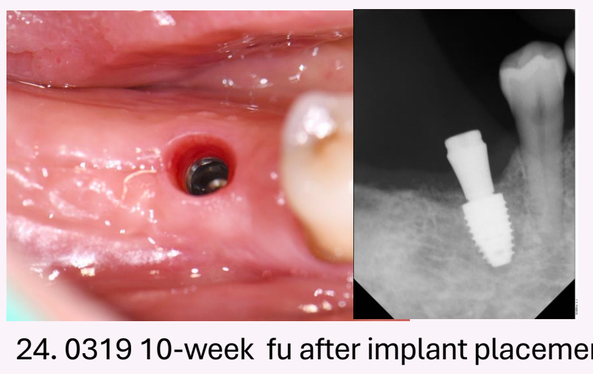
22.0309

23.1221 23-month fu after 1st RR : Tooth extraction

24.0109 implant placement with simple bone graft for contour enhancement

Staged Root resection & Waiting

No Gingival Graft



24. 0319 10-week fu after implant placement

Conclusion

Enhancing the condition of the surrounding tissues through root resection can reduce both the complexity and number of post-extraction surgeries, making future procedures more manageable. Additionally, this approach shortens the edentulous period after extraction, ensuring a more efficient treatment process. Please remember.

"HOPELESS TOOTH IS NOT USELESS TOOTH."