Immediate Implant Placement and Provisionalisation in the Esthetic Zone: A Case Report

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Objectives

To demonstrate:

1. A phased surgical and prosthodontic method for immediate implant placement in the esthetic zone.
2. A digital approach to ensure precise implant positioning in the esthetic zone.
3. The use of a SCTG at the time of immediate implant placement.
4. An immediate loading technique to facilitate proper soft tissue support.

Case Presentation

Fig. 1**:** A 42-year-old Hispanic male presented with a **horizontal root fracture** at tooth #10.

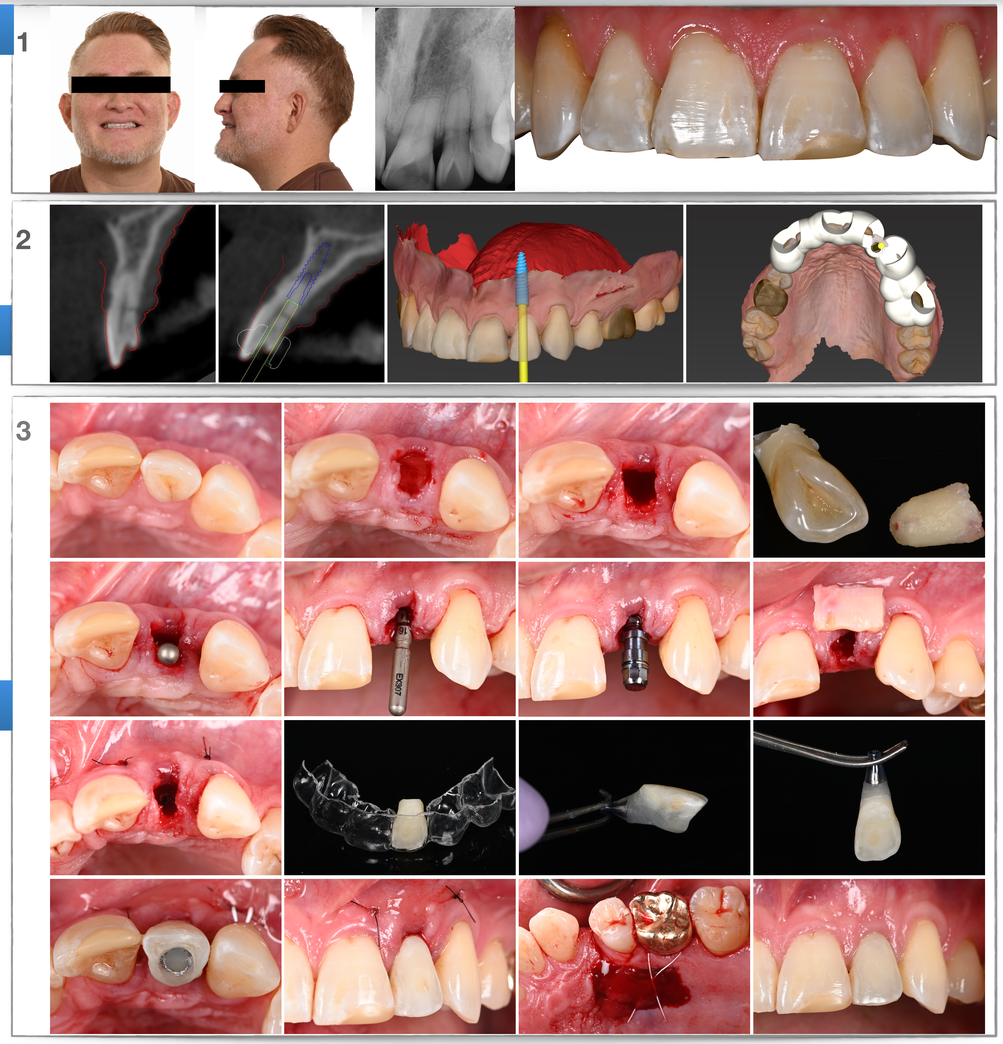
Fig. 2**:** A CBCT scan confirmed the degree of the horizontal fracture, aiding in the upcoming **implant planning**. A 3D implant planning software was utilized for **surgical guide preparation**.

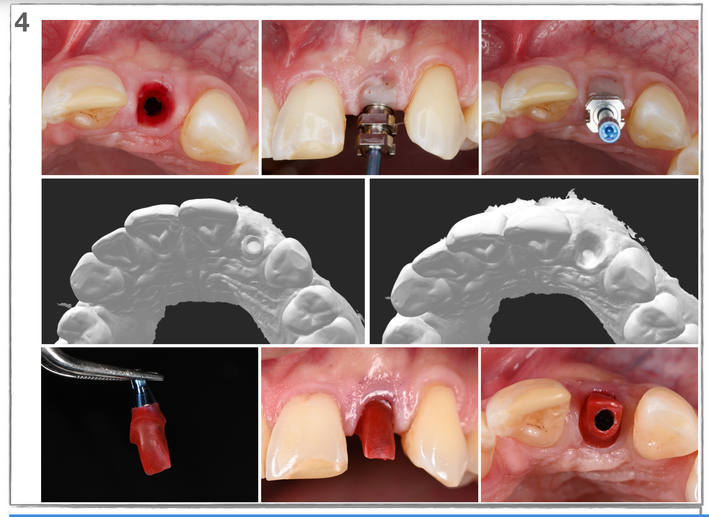
Fig. 3: **Extraction** of tooth #10 and **immediate implant placement** (2.9x12mm) followed by **SCTG** and **bone graft**. The **extracted tooth** was used for the **immediate loading**.

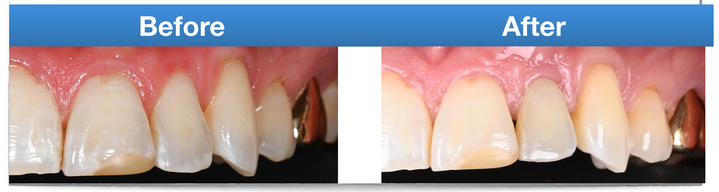
Fig. 4**:** Intraoral scan was taken for the fabrication of a **customized abutment**. A lab custom abutment pattern was fabricated for try-in.

Discussion

- Hard and soft tissue **remodeling** will occur following the extraction of teeth. This can lead to esthetic issues: **Lack of buccal bone** and **thin soft tissue** surrounding the implant causing irregular gingival margins.
- Performing a **SCTG** at time of implant placement enhances soft tissue **thickness**.
- When fabricating the final restoration, challenges may arise if the prefabricated abutment's height is short. A **custom abutment retaining a screw-retained crown instead of pre-fabricated titanium base** was used for improved emergence profile and retention/resistance form.







Conclusions

- Immediate implant placement in the esthetic zone can be challenging. Surgical and prosthetic measures are necessary to predictably preserve both hard and soft tissues.
- Using guided implant surgery, combined with a SCTG ensures satisfactory soft tissue thickness around the implant site.
- Creating a properly contoured provisional aids in the optimal healing of soft tissues surrounding the implant. If pre-fabricated abutments are not suitable, a customized abutment can be selected for the final screw-retained crown.