

Immediate Implant Placement With Non-Submerged Guided Bone Regeneration in the Posterior Mandible: A Clinical Case Report

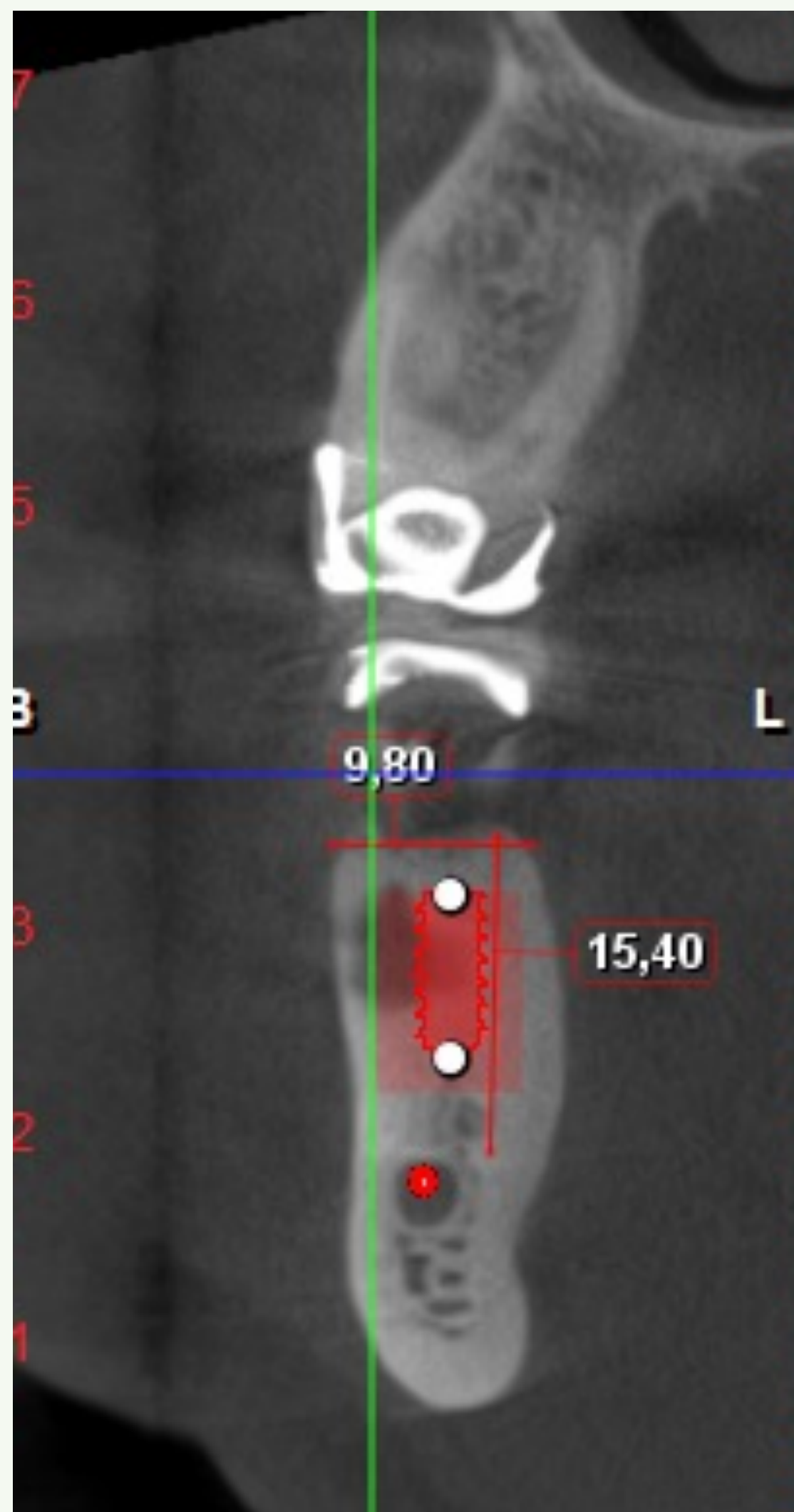
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Introduction

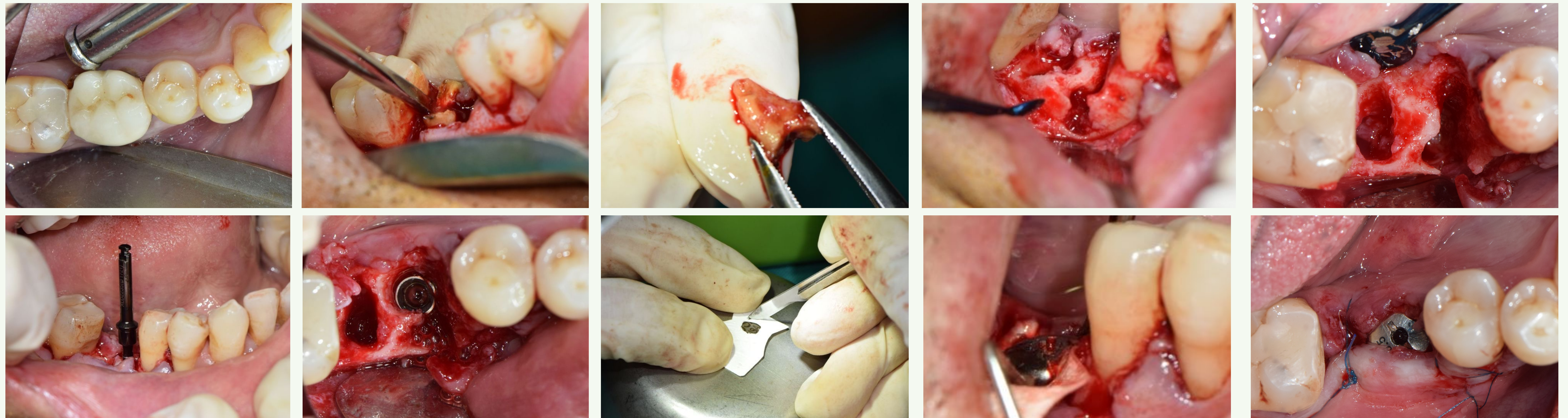
Immediate implant placement following tooth extraction is a predictable treatment option that reduces overall treatment time and helps preserve hard and soft tissues. However, the presence of buccal bone dehiscence may compromise functional outcomes and long-term implant stability. Guided bone regeneration (GBR) is commonly used to manage peri-implant bone defects and to enhance long-term implant stability.

Case description

- A 50-year-old patient presented with a posterior mandibular tooth requiring extraction.
- Preoperative CBCT revealed buccal bone dehiscence.
- Following atraumatic extraction, an implant was placed in a prosthetically driven position. Guided bone regeneration was performed using synthetic bone graft material and a resorbable membrane, which was stabilized by the healing abutment.
- Two interrupted sutures were placed, allowing a non-submerged healing approach.



Preoperative CBCT showing buccal bone dehiscence at the extraction site.



Surgical sequence of immediate implant placement with non-submerged guided bone regeneration

Results

- Postoperative healing was uneventful.
- At one-year follow-up, the implant demonstrated good functional stability with healthy peri-implant soft tissues and satisfactory radiographic bone regeneration.



Final crown delivery



Periapical radiograph after 1 year

Conclusion

Immediate implant placement combined with non-submerged guided bone regeneration, with membrane stabilization using the healing abutment, can be a predictable and effective treatment option for managing buccal bone dehiscence in the posterior mandible.