

INTRODUCTION

- Medication-related osteonecrosis of the jaw (MRONJ) is a painful and intractable disease of the jaw that clinically presents as an area of ulceration with exposed necrotic bone. The human recombinant parathyroid hormone teriparatide has recently been introduced for the management of MRONJ.
- PTH is a hormone that regulates calcium metabolism, mainly having catabolic and anabolic actions in bone. Continuous exposure to PTH can cause resorption of bone, however, intermittent administration of PTH improves bone micro-architecture, mineral density and strength. This action enables rhPTH to be an appealing treatment for patients with osteoporosis.
- Many clinical studies have shown promising results with rhPTH for treatment of MRONJ. In these cases, we have prescribed rhPTH to patients with osteonecrosis of jaw.

Case Reports

- The patient of first case(F/83) was referred from local dental clinic for pain and exposure of bone after extraction of #44,45
- PMH : HTN, Arteriosclerosis, Osteoporosis
- Missing tooth and alveolar bone atrophy include decreased bone height and width of right mandibular area (#44,45) was observed.

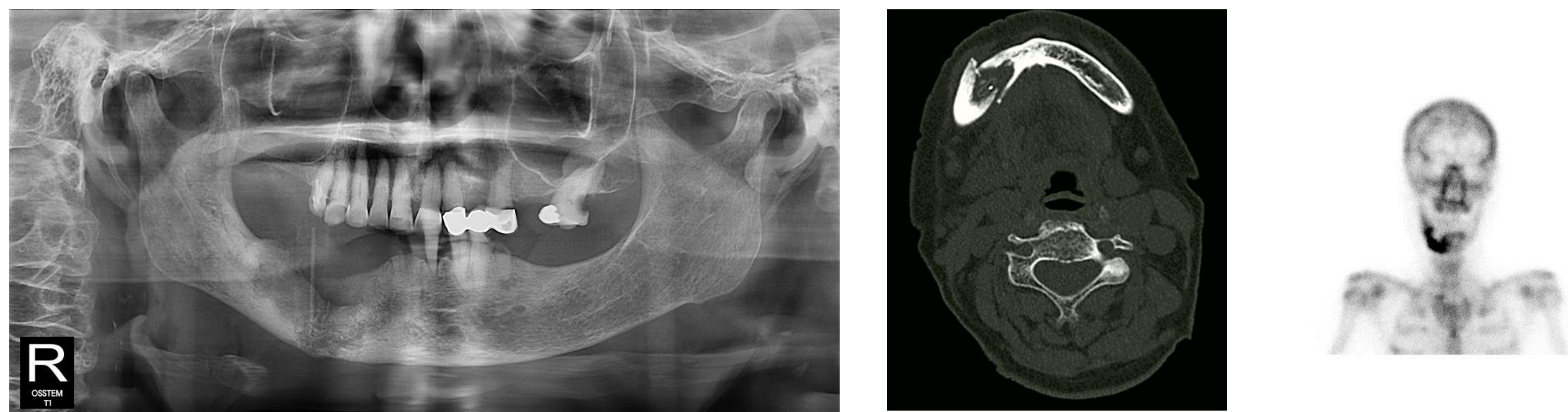


Fig 1. Pretreatment Panoramic radiographs, CT, and Bone Scan

- Sequestrectomy of necrotic bone + BMP, PRF under Sedation
- Antibiotic adjuvant therapy during the hospitalization
- rhPTH injection

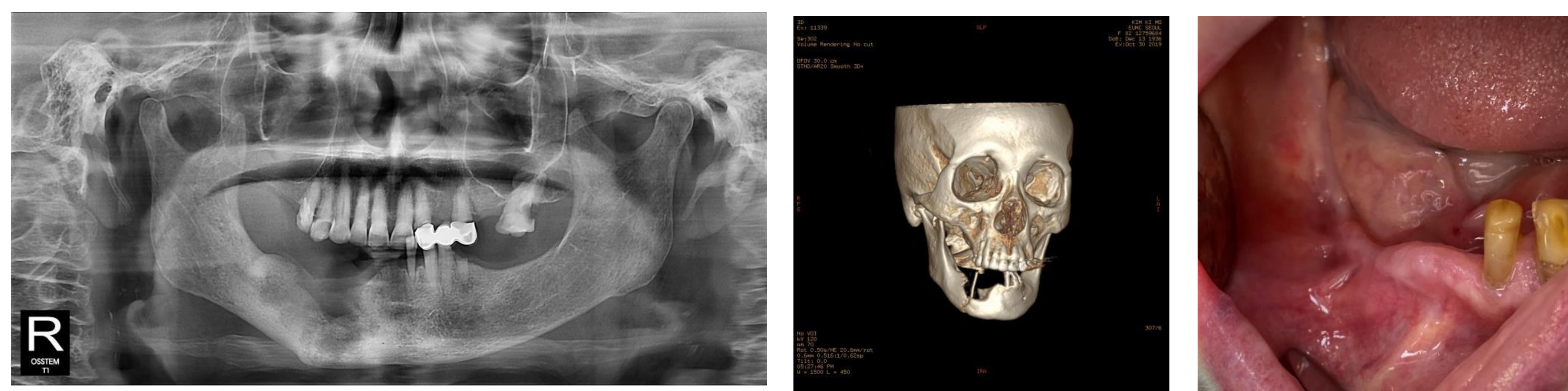


Fig2. (POD 3 months) Posttreatment Panoramic radiographs, CT, and Intraoral photo

- Second case patient (F/80) showed delayed healing after insertion of dental implant fixture on #45,47
- PMH : HTN, Antidepressant medication
- Opening of lingual and sublingual gingiva of #45i, 47i observed.



Fig 3. Pretreatment, 1 month, and 3 month post-treatment

- Antibiotic adjuvant therapy including antibiotic oral oint
- rhPTH injection

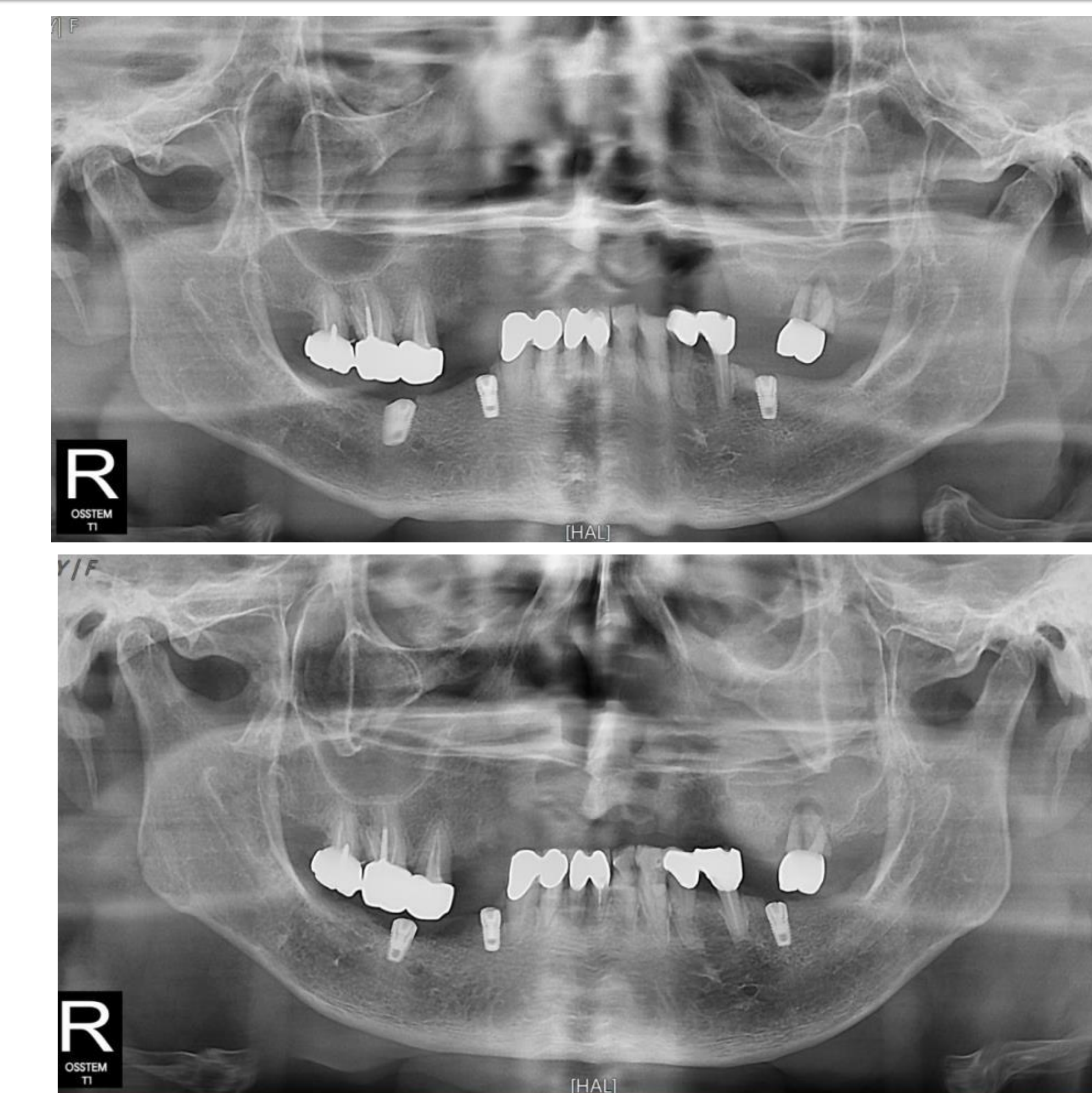


Fig 4. Pre and post treatment Panoramic radiograph

RESULTS

- From the first case, patient started rhPTH injection from December 2019, and was injected until March 2020. No further bone necrosis was observed, and it remained without complaints of pain.
- In the second case, rhPTH injection was prescribed after extraction of thin bone particle from affected sites. Continuous follow-up was conducted and normal healing state was maintained. OMV measurement of #45i and 47i was 64 and 83
- In both cases, recovery with rhPTH injection was uneventful with no infection and membrane tearing.

Conclusion

- Continuously produced parathyroid hormone stimulates osteoclasts to increase bone resorption, thereby increasing blood calcium. However, human recombinant parathyroid hormone teriparatide drugs used for the purpose of treating osteoporosis, because of their short half-life, are intermittent and a small amount of concentration is used. They show the effect of increasing bone density and strength. Accordingly, short-term use of PTH can be helpful in resolving MRONJ lesions by raising the level of scrutiny for BP therapy, which is currently widely used.
- From the two cases presented, results suggest that adjunctive rhPTH therapy is a viable and effective option for treating osteonecrosis of the jaw.

References

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