



Rehabilitation using implants in a patient with Medication Related Osteonecrosis of the Jaw (MRONJ) and possible role of rheumatoid arthritis as a co-morbidity: report of a case

Seung-Woo Lee*, Yeon-Ah Lee, Kwan-Tae Noh, Joo-Young Ohe, Jung-Woo Lee, Jun-Ho Jung, Min-Ah Kim, Yong-Dae Kwon
Dept. of Oral and Maxillofacial Surgery, Kyung Hee University School of Dentistry, Seoul, Korea

Introduction

- Besides the long-term intake of antiresorptive drugs, co-morbidities such as underlying systemic disease, type of medication may be associated and local factors are also important.
- Among the systemic diseases, rheumatoid arthritis (RA) is considered as an emerging risk factor and the relationship between RA and osteonecrosis is not clear, yet, but it is considered that RA is a risk factor that deteriorates osteonecrosis by interfering with bone metabolism
- Surgical treatment has been successful in treating MRONJs but the restorative rehabilitation often seems problematic because of the surgical defect and limited treatment options.
- We are presenting a rehabilitation case of a patient with MRONJ after dental implant and to describe the implication of an RA as a risk factor and strategic points for the prosthodontic rehabilitation. treatment

Case Report

Pre-operative patient information

67 years old female patient

- Chief Complaint : Broad osteonecrosis on ant. Mn.
(onset: after implant operation, referred from L/C)
- Dental Hx.
 - #31i,34i,35i,36i,43i,44i,45i,46i implant operation and bridge using prosthetic restorations (2 yrs ago, L/C)
 - #34i-44i bridge prosthetic removal due to gingival swelling (1yr ago, L/C)
 - flap operation on ant. Mn. (a day ago)

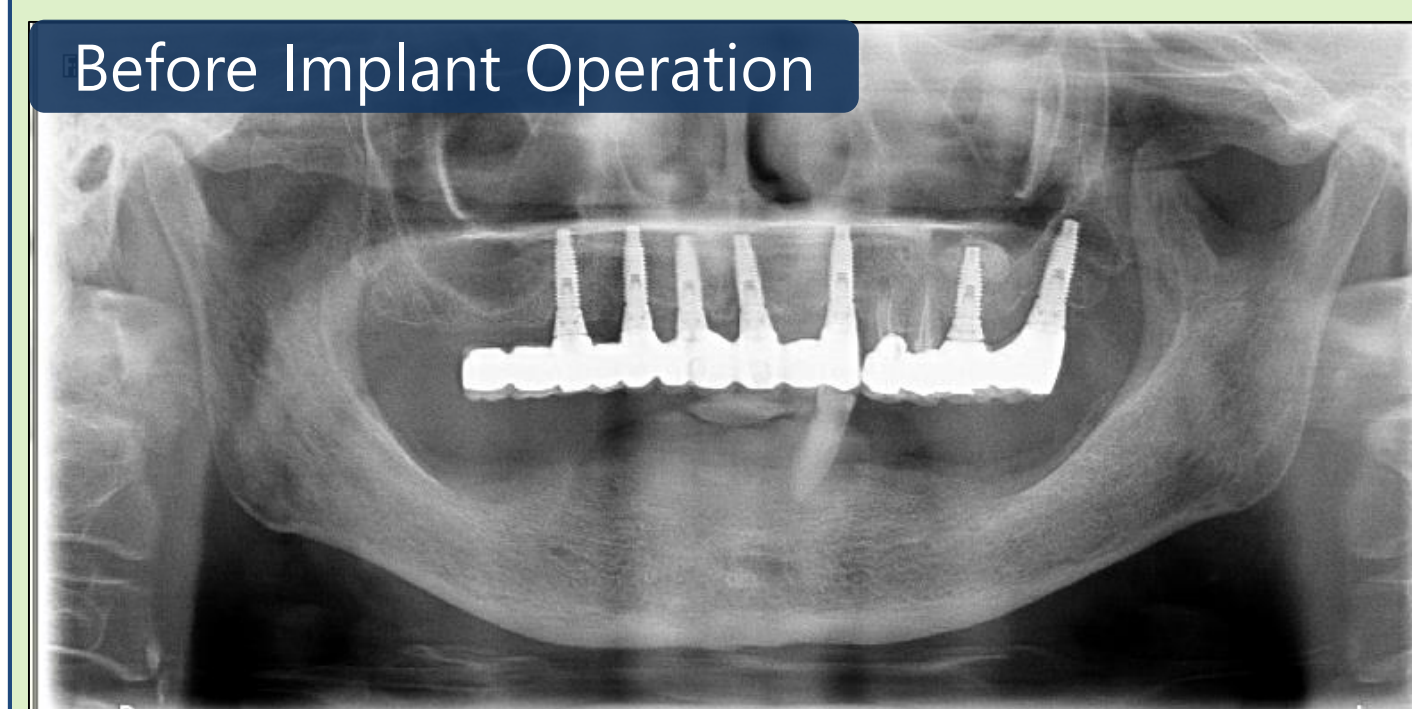
- Medical Hx.
 - Hypertension : controlled
 - Osteoporosis : viviant® (SERM, bazedoxifene) : 1 yr ago
 - Rheumatoid arthritis : 8 yrs ago

* DMARDs for Rheumatoid arthritis

- Methotrexate, Leflunomide
- Prednisolone 2.5 mg

Before the onset of Osteonecrosis

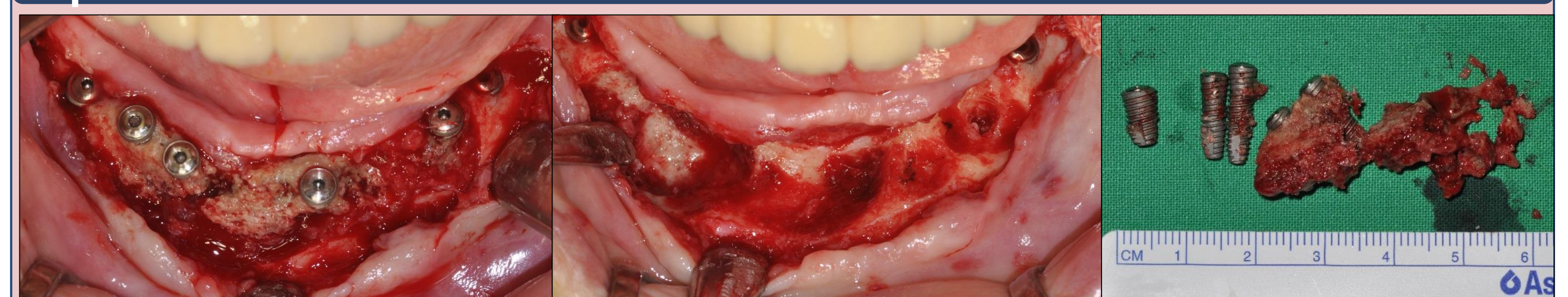
Before Implant Operation



After Implant Operation



Operation 2016.04.05



Sequestrectomy on ant. Mn. & explantation on #31i,34i,43i,44i,45i

Initial Examination 2016.02.04



- Broad ill-defined osteolytic lesion & sequestrum formation on ant. Mn.
- Bone destruction expanding to #31i,34i,43i,44i,45i & Rt. Mental foramen



Active bony lesion on ant. Mn.

- Gingival swelling & redness
- Necrotic bone exposure
- Implant fixture exposure

<Laboratory report> 2016.03.22	
Vitamin D (30.1 ~ 100.0ng/mL)	38.60
CTX (ng/mL)	0.141
Osteocalcin (5 ~ 25ng/mL)	4.87



Imp) MRONJ on ant. Mn. (stage 2b)

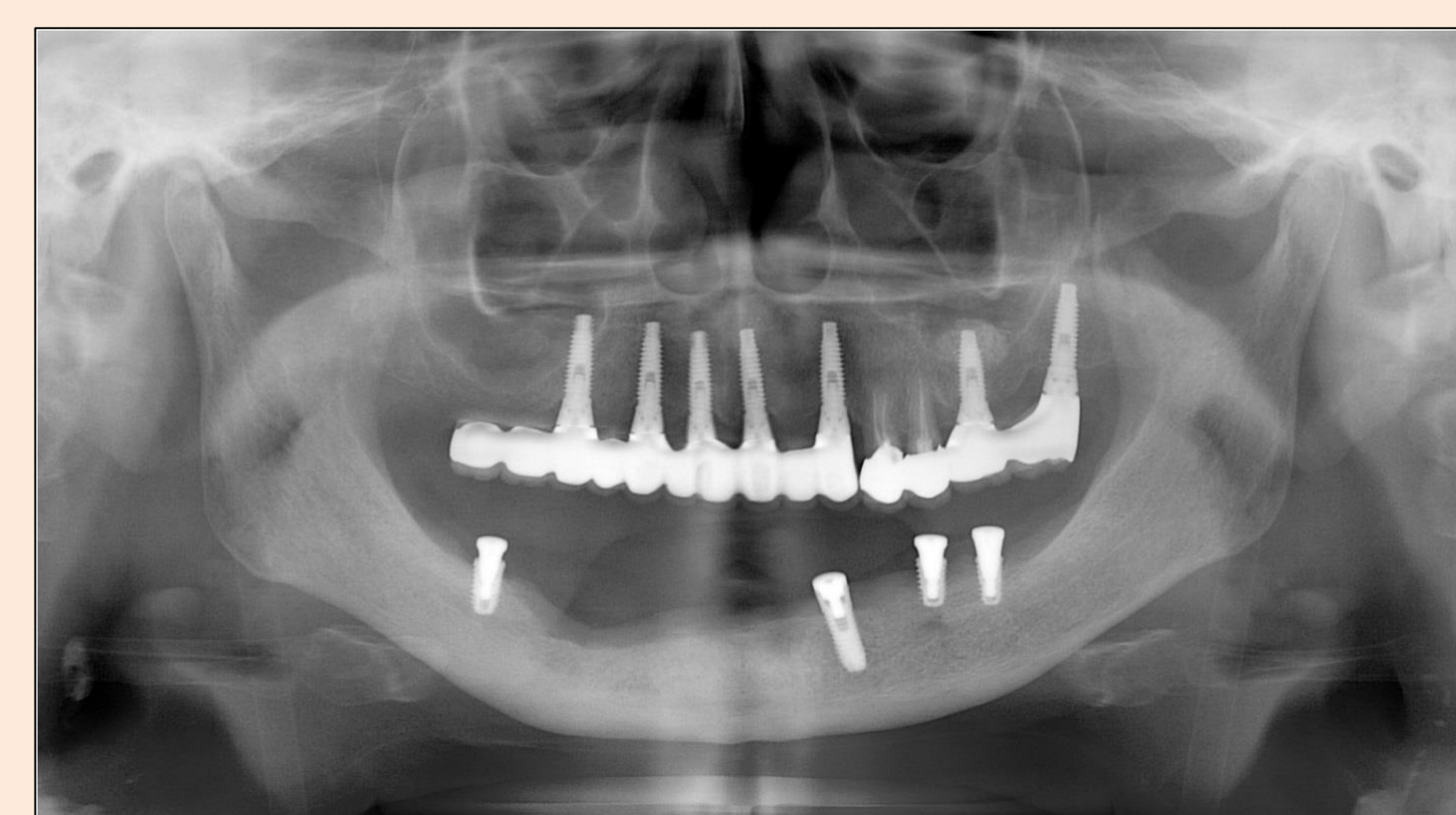
- Mouse rinse with Chlorohexidine
- Antibiotic therapy(clindamycin, tid, PO)

Post-op. follow-up (after 5M)



- Progressive healing on bony lesion
- No additional osteonecrosis was observed

Additional implant installation 2016.12.23



Implant installation on #33i
- Osstem® 4.0*10mm

Prosthetic rehabilitation



Implant-retained overdenture using a magnetic attachment

Discussion & Conclusion

- Rheumatoid arthritis (RA) is a systemic autoimmune inflammatory disease characterized by various systemic manifestations and progressive joint destruction due to chronic inflammation. Due to the characteristic of generalized bone loss of RA, osteoporosis is one of the complications that arise from non-joint areas of RA. Traditional disease-modifying antirheumatic drugs (DMARDs) and glucocorticoids can be used in RA to control the disease and to limit joint damage.
- These drugs are cytotoxic and immunosuppressive agents that can cause suppression of bone remodeling and inflammatory alterations. As a result, RA may be a risk factor for the occurrence, progression, or healing of osteonecrosis.
- Most of the oral MRONJ cases in patients with or without RA are triggered by invasive dental procedures, such as extractions and dental implants. Additionally, and eventual occlusal overload on the prosthesis might have contributed to MRONJ.
- Because these diseases can act as synergistic effect, in treating patients with ONJ and RA, it is necessary for dental clinicians to be aware of the potential risk of developing MRONJ and prevention, early detection of the lesions.