



PROGNOSTIC FACTORS FOR SURGICAL OUTCOMES IN PATIENTS WITH MRONJ : 3-YEAR RETROSPECTIVE STUDY

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INTRODUCTION

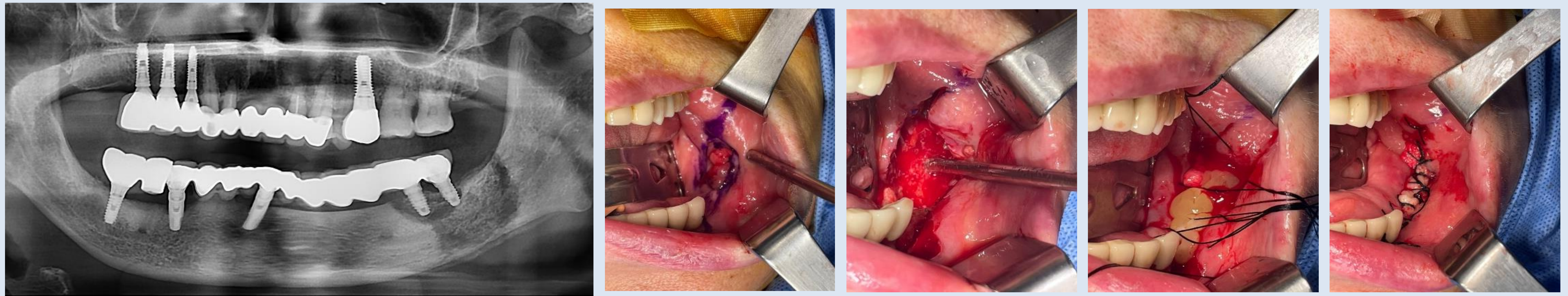
- ◆ Medication-related osteonecrosis of the jaw (MRONJ) is a complication associated with anti-resorptive and anti-angiogenic drugs used to treat osteoporosis.
- ◆ The purpose of this study is to analyze the patients who underwent sequestrectomy after diagnosis of MRONJ and to perform statistical analysis on the prognosis and affecting factors.
- ◆ MRONJ can be classified from stage 1 to stage 3 based on the position paper of the American Association of Oral and Maxillofacial Surgeons (AAOMS). It is known that surgical intervention is essential for lesions from stage 2 onwards.¹⁾
- ◆ Specifically, in Stage III MRONJ cases, neglecting intervention increases the risk of complications, such as oro-antral communication or mandibular pathologic fractures. Hence, timely surgical management is essential.

METHODS & PATIENTS

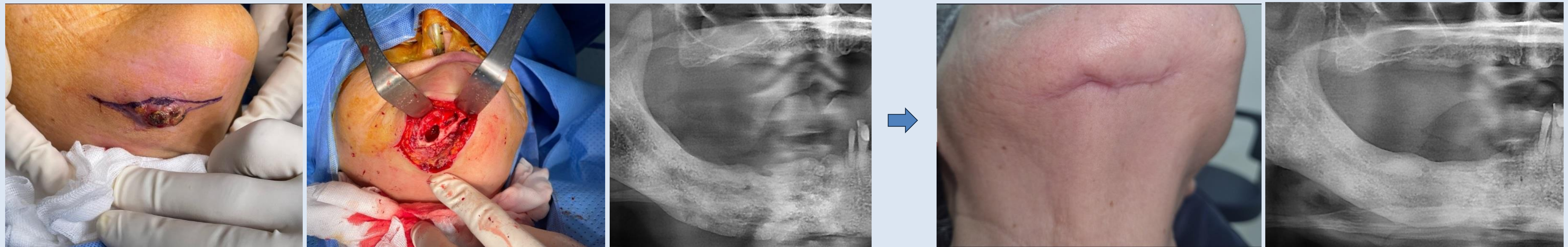
- ◆ We studied patients who underwent sequestrectomy at Ewha Womans University Seoul Hospital from January 1, 2020 to December 31, 2022.
- ◆ A total of 85 patients were investigated. Several factors were analyzed such as The etiology, age, gender, trigger, Stage, Systemic disease and location, Presence of DM, Smoking habit and Duration of Drugs.
- ◆ All surveyed patients underwent surgical intervention, where all necrotic bone and connective tissue affected by the disease were removed. BMP and PRF were used in the surgical site to promote healing. The point of complete healing was based on full-mucosal coverage of the lesion.
- ◆ Statistical analysis was performed to determine which factors had a significant impact on reoperation rate. Each factor and the reoperation rate of MRONJ were tested with a Chi-squared test at the 5% level of significance.

METHODS & PATIENTS

PATIENT 1. Image shows the surgical treatment of a patient with MRONJ in the left mandible using BMP + PRF.



PATIENT 2. Image shows the surgical outcomes of a patient with lesion involvement extending to the inferior border of the right mandible (MRONJ Stage III).



PRE - OP

POST – OP(8M Later)

RESULTS

Table 1. Descriptive analysis and clinical characteristics

Category	Description	Surgical outcomes(n)		P-value
		Complete healing within 6months	Relapse within 6months	
Gender	Male	9	2	0.198
	Female	69	5	
Age (yrs)	Mean	77.1		
	Median	79		
	SD	10.2		
	Range	48 ~ 96		
Site	Mandible	47	6	0.208
	Maxilla	29	1	
	Both	2	0	
Drugs	Bisphosphonates(PO)	40	1	0.008*
	Bisphosphonates(IV)	10	4	
	Denosumab	28	2	
Primary disease	Osteoporosis	43	4	0.384
	Breast cancer	13	0	
	Multiple myeloma	8	2	
	Others	14	1	
Trigger	Tooth extraction	42	4	0.374
	Implant placement	18	1	
	Ill-fitting denture	6	0	
	Unknown	12	2	
Stage at diagnosis	I	9	0	0.377
	II	59	5	
	III	10	2	
Steroid intake	Yes	11	2	0.308
	No	67	5	
Diabetes	Yes	14	4	0.015*
	No	64	3	
Smoking habit	Yes	4	0	0.539
	No	74	7	
Duration of drug intake	<12 months	7	0	0.515
	12-24 months	18	1	
	>24 months	53	6	

- ◆ The standard of complete healing was determined by whether complete mucosal covering was achieved within 6 months after surgery.
- ◆ Of the 85 patients, 78 patients achieved complete healing with only one surgical treatment, and 7 patients required two or more surgical treatments.
- ◆ There were no statistically significant differences in reoperation rates by gender, location, type of drugs, primary disease, trigger, stage, smoking habit, Steroid intake, duration of intake.
- ◆ However, there was a statistically significant higher reoperation rate in the IV bisphosphonate group compared to the other groups.(P = 0.008)
- ◆ In addition, there was a statistically significant difference between the presence of diabetes and reoperation rates. Patients with diabetes were more likely to require two or more surgical procedures.(P = 0.015)
- ◆ And although not statistically significant, reoperation rates were higher in patients who had been on the medication for more than two years.

CONCLUSION

- ◆ When complete mucosal coverage of the alveolar bone was considered perfect healing, 78 patients were cured with only one surgical treatment, while 7 patients underwent two or more surgical treatments.
- ◆ If [patient's blood glucose is not controlled in ward](#), there is a statistically significant chance that patient will not recover and [may need to have a additional surgery](#).
- ◆ Patients who have taken [bisphosphonate drugs by IV for more than 2 years](#) have a high risk of developing and recurring MRONJ, so it is necessary to inform patients about the [risks of dental procedure](#).

REFERENCES

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