FINDINGS FROM A WEB-BASED QUESTIONNAIRE SURVEY Of DENTISTS AT CANCER TREATMENT HOSPITALS ACROSS JAPAN ABOUT MANAGEMENT FOR OSTEORADIONECROSIS (PART1)

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ABSTRACT

Background: Osteoradionecrosis (ORN) of the jaw is a severe late adverse event following radiotherapy for head and neck cancer. This study aims to understand the status of ORN diagnosis in Japan.

Methods: From July 2023 to January 2024, a web-based survey was conducted among dentists. The questionnaire focused on the annual incidence, classification, and evaluation methods of ORN.

Results: 115 dentists responded. Most (76%) reported fewer than five new ORN cases yearly. Median (range) ratings for evaluation methods were panoramic X-ray 8 (2-10), CT 10 (3-10), MRI 8 (1-10), bone scintigraphy 6 (0-10), PET 5 (0-10), clinical findings 10 (5-10), and blood examination 6 (0-10). 61% used the Medication-Related Osteonecrosis of the Jaw (MRONJ) classification.

Conclusion: Variations were noted in the use of bone scintigraphy and PET for evaluation. MRONJ classification is commonly used in clinical practice.

INTRODUCTION

Osteoradionecrosis (ORN) of the jaw is a severe late adverse event that manifests following radiotherapy for head and neck cancer.

In the absence of consensus guidelines, it is anticipated that there exists divergence in the management of ORN across various facilities and among healthcare providers.

However, there has been no documented investigation surveying the actual diagnosis and management landscape in our country.

The aim of this study is to understand the status of ORN diagnosis in Japan.

Figure 1. Osteoradionecrosis

METHODS AND MATERIALS

Between July 2023 and January 2024, we administered a web-based survey to dentists and subsequently compiled the results.

The questionnaire consisted of two sections, focusing on diagnosis and management.

This abstract focuses on the diagnostic aspect.

The questionnaire items included the annual incidence number of patients with ORN, its classification, and evaluation methods, utilizing single- and multiple-choice items, and a Likert scale, respectively.

Likert scale ratings were designated from 0 to 10, with the median reflecting the importance of the ORN evaluation method.

RESULTS

A total of 121 respondents were obtained.

The majority of respondents (92/117; 78.6%) reported encountering fewer than five new cases of ORN in a year (Figure 2).
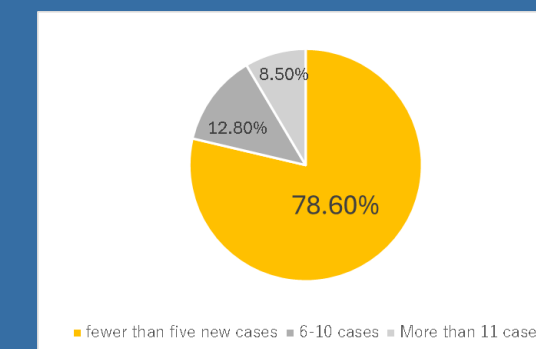
8.50%
12.80%
78.60%

● fewer than five new cases ● 5-10 cases ● More than 11 cases

Figure 2. Annual incidence number of patients with ORN

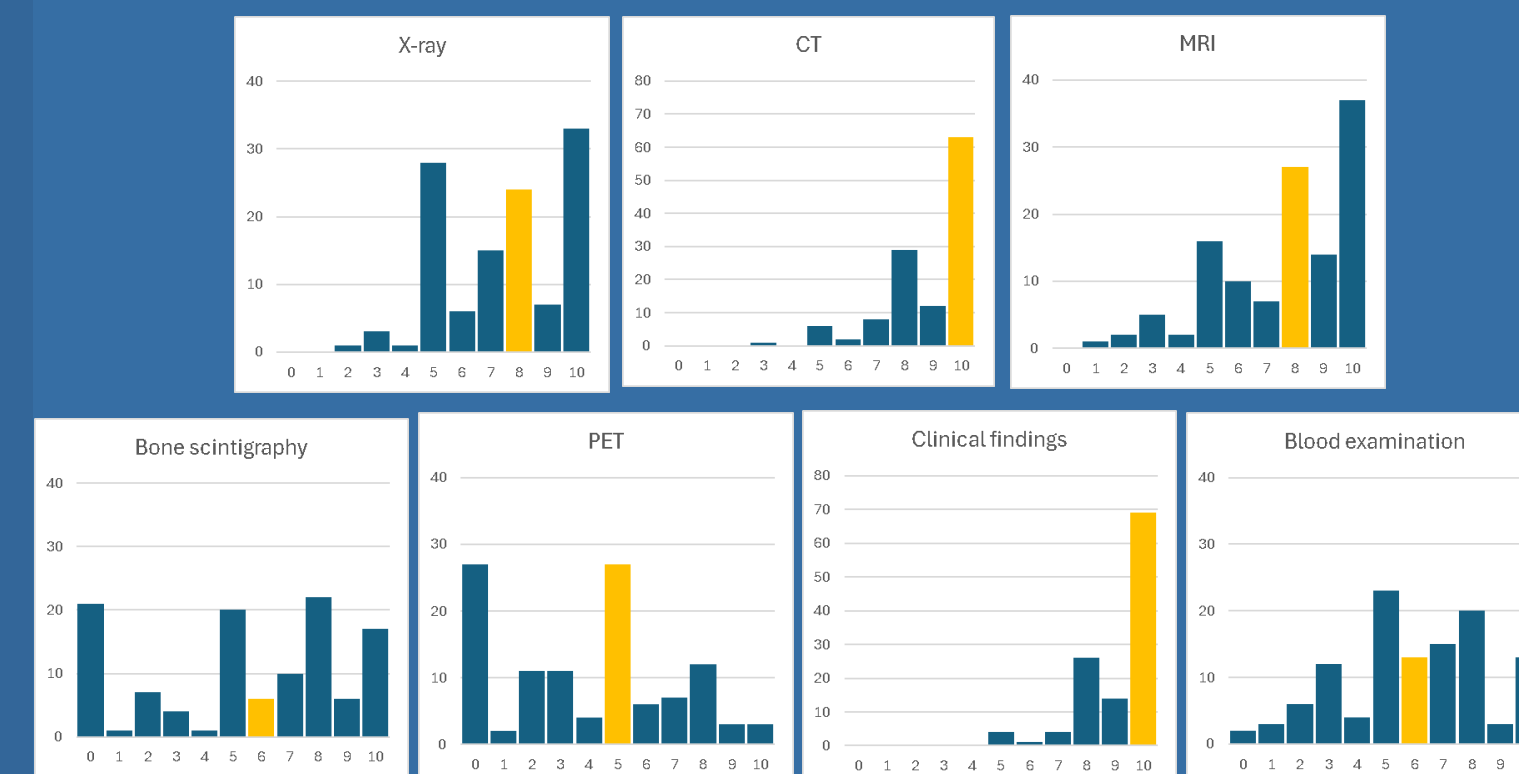The Likert scale ratings for evaluation methods were shown in Figure3 (the medians are shown in yellow).

X-ray | CT | MRI

Bone scintigraphy | PET | Clinical findings | Blood examination

Figure 3. Evaluation methods of Osteoradionecrosis

The high percentage of responses regarding classification included Medication-Related Osteonecrosis of the Jaw (MRONJ) (79/121; 61%) (Table 1).

Ranking	Classification	Number of responses	Rate
1	MRONJ	79	61%
2	CTCAE	31	26%
3	Notani	10	8%

Table 1. Classification of Osteoradionecrosis

DISCUSSION

The results emphasize the importance of X-ray, CT, and MRI, which the ISOO-MASCC-ASCO guidelines[1] recommend.

Particularly, CT and MRI are used to evaluate soft tissue and inflammation to understand the exact situation of ORN.

Variations were noted in the use of bone scintigraphy and PET for nuclear examination.

These differences were attributed to varying levels of experience with ORN across institutions.

The major classification of ORN was the MRONJ classification.

Since the MRONJ classification does not define image examination characteristics, X-ray, CT, MRI, and clinical findings are considered to be used in combination to determine the stage.

Meanwhile, the guidelines recommend the ClinRad classification, which includes both X-ray and clinical findings.

CONCLUSIONS

X-ray, CT, and MRI are primarily used to evaluate ORN, with variations noted in the use of bone scintigraphy and PET.

The MRONJ classification is commonly used in clinical practice.

REFERENCES

1) Douglas E. Peterson et al., ISOO-MASCC-ASCO Guideline. JCO,2024