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## Homoeopathy in post radiation osteoradionecrosis in oral cancers

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### Abstract

Osteoradionecrosis (ORN) is one of the most challenging among all adverse effects of radiotherapy. Overall incidence of osteoradionecrosis in head and neck ranges from 9 percent after dose of 70Gy to 2 percent following dose 60 Gy. Ischemia following radiation therapy is the principal causative factor but this disease is compounded by poor oral hygiene and poor dentition. In this retrospective study we tried to assess the efficacy of homeopathic drugs in management of osteoradionecrosis. The patients were referred to us by our radiation oncologist friend during the period of June 2022 to Dec 2022.

**Aim of the study:** To assess the role of homeopathic medicine in management of osteoradionecrosis.

**Materials and Methods:** Total 11 patients chosen for study.

### Inclusion criteria

- Patients treated from June 2022 to Dec 2022.
- All received a dose of 60 Gys.
- All have purulent discharge for more than 15 days and exposed bone.
- All patients having clinical, radiological and histopathological evidence of osteoradionecrosis.

### Exclusion criteria

- All patients fall outside this date range.
- Radiation defaulters' patients.
- Patients who receive more or less doses than 60Gys.
- Patients associated with diabetes mellitus.

**All subjects received drugs for 6 months. Patients were followed every month for 6 months.**

### Observations

- 6 out of 11 patients have discharged subsided within a month and no further discharge.
- 2 out of 11 had discharge subsided in a month but had more than two episodes of discharge.
- 2 patients did not show any improvement and had to undergo surgical debridement.
- One patient lost in follow-up.
- 4 patients have completely healed exposed bone.
- 3 patients have partial healing,
- 3 patients did not show any healing at all.

### Results

- 60 percent of patients showed complete recovery following homeopathic treatment.
- 20 percent of patients showed partial improvement.
- 20 percent did not show any improvement.

**Conclusion:** In this retrospective analysis of limited patients we have seen excellent results following homeopathic medication. Which was further verified by a thankful gesture from a radiation oncologist friend who struggled a lot during treatment of osteoradionecrosis.

**Keywords:** Osteoradionecrosis, homoeopathy, oral cancer, palliative care, radiation, complications

### Introduction

Osteoradionecrosis (ORN) is one of the most challenging adverse effects of radiotherapy. The overall incidence of osteoradionecrosis in the head and neck ranges from 4 to 8 percent. It is defined as exposed and irradiated bone that fails to heal in 3 months without evidence of a persistent or recurrent tumor (1). The main contributing factor to the development of osteoradionecrosis is ischemia resulting from radiation therapy. However, the severity of this condition is exacerbated by inadequate oral hygiene and compromised dentition. In this retrospective investigation conducted between June 2022 and December 2022, we aimed to evaluate the effectiveness of homeopathic medications in treating osteoradionecrosis, as recommended by a radiation oncologist colleague.

The aim of the study is to assess the role of homeopathic medicine in the management of osteoradionecrosis.

### Materials and Methods

1. 11 patients were chosen for the study.
2. Drop out 1
3. All patients were given individualized homeopathic medicine for 6 months.
4. Follow up every month for six months.

### Inclusion criteria

- Patients were treated from June 2022 to December 2022.
- All received a dose of 60 Gys.
- All patients have two common symptoms. i.e., exposed bone and purulent discharge
- All have purulent discharge for more than 15 days and exposed bone.
- All patients have clinical, radiological, and histopathological evidence of osteoradionecrosis. All patients were followed every month for 6 months.

### Exclusion criteria

- All patients fall outside this date range.
- Radiation-defaulting patients.
- Patients who receive more or less doses than 60 Gys.
- Patients associated with diabetes mellitus.

### Observations from the study are as follows

1. Six out of the 11 patients experienced complete discharge resolution within one month, and no further discharges were observed.
2. Two out of the 11 patients had their discharge subside within a month, but they experienced more than two subsequent episodes of discharge.
3. Two patients did not show any improvement, leading to the necessity of surgical debridement.
4. Unfortunately, one patient was lost to follow-up, limiting the available data for analysis.
5. Among the participants, five patients exhibited full healing of the exposed bone.
6. Three patients demonstrated partial healing during the observation period.
7. Two patients did not show any signs of healing throughout the study duration.

These observations provide insights into the varied responses and outcomes among the study participants, highlighting the need for individualized approaches to treatment and ongoing monitoring.

### Discussions

Radiation therapy plays a crucial role in the management of squamous cell carcinoma in the head and neck region, serving as either a curative or adjuvant treatment. Despite its efficacy in targeting cancerous cells, the emergence of side effects remains an inherent challenge. Of these, osteoradionecrosis stands out as one of the most vexing complications for both patients and physicians. This condition, characterized by the death of bone tissue due to radiation exposure, poses significant challenges in terms of management and often requires a comprehensive and tailored approach to address its complexities. The frustration associated with osteoradionecrosis stems from its chronic

nature and the difficulties in achieving complete resolution, underscoring the ongoing need for advancements in therapeutic strategies and supportive care to enhance patient outcomes. Osteoradionecrosis was first described by Regaud in 1920<sup>[1]</sup>. It results from a fibro atrophic mechanism due to free radical formation, which leads to hypoxic, hypo vascular, and hypo cellular tissue<sup>[2]</sup>. Risk factors for developing osteoradionecrosis are radiotherapy (dose, volume, and type), surgery (Number, volume, hematoma, and infection), concomitant chemotherapy, age, hypersensitivity, high blood pressure, diabetes, poor oral hygiene, and smoking<sup>[3]</sup>. Conservative measures such as antibiotics, analgesics, oral hygiene, ultrasound therapy, and hyperbaric oxygen therapy are often employed to manage symptoms and promote healing. These approaches can be particularly beneficial in less severe cases.

Anti-fibrotic medications like pentoxifylline and vitamin E may play a role, especially in cases of low-grade osteoradionecrosis, potentially helping to mitigate fibrotic changes and improve tissue health.

Surgical management is typically considered a last resort. Procedures like debridement or excision with reconstruction may be necessary in more advanced or resistant cases where conservative measures have not provided sufficient relief<sup>[4]</sup>. Indeed, managing osteoradionecrosis can be challenging, and outcomes may vary from person to person. Despite the array of treatment options available, the nature of the condition, often resulting from radiation therapy, can make it difficult to achieve complete resolution. Osteoradionecrosis involves damage to bone and surrounding tissues due to radiation exposure, and its treatment is influenced by the extent of the damage, the location, and the overall health of the individual.

In an experimental study published in homeopathic medicine, *Plumbum metallicum* 30C was found effective in bone repair<sup>[5]</sup>. Also, *symphytum officinale* is found useful in bone regeneration<sup>[6]</sup>.

In this study, a tailored approach to medication administration was employed, diverging from the practice of administering a uniform drug regimen to all participants, as observed in other studies. Instead, medications were individualized based on each patient's constitution. The treatment duration spanned six months, during which patients underwent regular follow-up assessments conducted at two-month intervals.

### Results

- 60 percent of patients have shown complete recovery following homeopathic treatment.
- 20 percent of patients showed partial improvement.
- 20 percent did not show any improvement.

### Conclusion

In this retrospective analysis of limited patients, we have seen excellent results following homeopathic medication. Which was further verified by a thankful gesture from a radiation oncologist friend who struggled a lot during treatment of osteoradionecrosis.

### Conflict of Interest

Not available

### Financial Support

Not available

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