

Chondro- and osteo-radionecrosis in the Head and Neck region – Beyond the Jaws

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Background:

Osteoradionecrosis (ORN) often affects the jaws, however other bone and cartilage sites in the head and neck region can also be affected by radiation exposure.

Extrapolating from the success in the use of pentoxifylline, tocopherol with/without sodium clodronate (PENTO/CLO regime) for the management of jaw osteoradionecrosis, we extended its use case for the management of non-jaw related chondro- and osteo-radionecrosis in the head and neck region.

Objectives:

To evaluate the efficacy of PENTO/CLO therapy in the management of chondro- and osteo-radionecrosis in non-jaw head and neck sites.

Methods:

We reviewed data from 22 patients with head and neck ORN outside the jaw. Of these, three patients were managed with antibiotics only due to contraindications or intolerance to pentoxifylline, while the remaining 19 received the PENTO/CLO regimen. Treatment outcomes were categorized as healed, stable, or disease progression.

Results:

The most affected non-jaw site was the temporal bone (n=9) with the majority (20 out of 22) occurring spontaneously. Among the 19 patients who were managed using the PENTO/CLO regime, 68% (n=13) achieved disease stability, 26% (n=5) healed and two patients showed disease progression. In the two cases of disease progression, the main driver was persistent infection. In the antibiotic alone group, one out of three patients experienced disease progression. Craniofacial ORN emerged as a late complication of radiotherapy, averaging approximately eight years post-radiotherapy.

Conclusion:

The PENTO/CLO regimen demonstrates promising efficacy in managing non-jaw chondro- and osteo-radionecrosis, offering a cost-effective, non-invasive alternative to surgery, particularly for patients for whom surgical intervention is not feasible. This approach addresses a rare but increasingly recognized complication of radiotherapy.