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| **Name:** |
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| **Group:** |
| 9A-2 |
| **Pathology Question:** |
| What is osteoradionecrosis and how does it occur? |
| **Report:** |
| Osteoradionecrosis is a pathology found in the bone after radiation therapy. This can present years after treatment has ended and when referring to the head and neck it primarily presents in the mandible due to its already low vascularity. It is related to radiotherapy but it is not very common. Pateints can present with osteoradionecrosis after having radiation therapy to treat a cancer of the head and neck. The issue with osteoradionecrosis is that the bone is unable to repair itself after damages due to the lack of vascular flow.  The pathogenesis of bone radiation necrosis is not fully understood. There is belief that the use of radiation in the oral cavity to treat head and neck cancers may cause tissue destruction due to hypovascularity, hypoxia and hypocellularity within the mandible. Another proposed pathogenesis is proposed to be due to radiation-induced fibroatrophic mechanisms and the production of free-radicals. Both of these theories result in decreases functionality of vessles within the mandible leading to decreased healing ability.  It is recommended that any dental treatment be done before radiation therapy to prevent any unneccesary trauma to the bone. Xerostomia and dental treatment within a year of radiation therapy increase the risk of developing osteoradionecrosis |
| **References:** |
| Kolokythas, A., Rasmussen, J., Reardon, J., & Feng, C. (2019). Management of osteoradionecrosis of the jaws with pentoxifylline–tocopherol: A systematic review of the literature and meta-analysis. *International Journal of Oral and Maxillofacial Surgery,* *48*(2), 173-180. doi:10.1016/j.ijom.2018.08.007 |