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Osteoradionecrosis/osteomyelitis of the chest wall associated with radiotherapy for breast cancer

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Introduction: Osteoradionecrosis is an uncommon entity associated with breast cancer, with decreasing incidence. It can present as a local inflammatory process, skin ulceration, and bone changes, and may be associated with osteomyelitis. Clinical treatment usually involves a surgical procedure. **Objective:** To evaluate the factors associated with the diagnosis and potential surgical treatments performed in patients with suspected osteoradionecrosis/osteomyelitis of the costal arches after breast cancer treatment. **Methods:** This was a systematic review of literature based on the PICOS (patient/population, intervention, comparison, outcome, study design) and the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) methodologies, carried out on two databases (PubMed and LILACS), using the descriptors: breast neoplasms and osteoradionecrosis or osteomyelitis. All cases treated in a tertiary oncology hospital over a 5-year period were evaluated. The study was approved by the research ethics committee (CAAE 81761124.9.0000.5105). **Results:** Of the 125 articles evaluated, 22 were included in the study. In the differential diagnosis of osteomyelitis, thoracic magnetic resonance imaging and triphasic scintigraphy are the main exams to be performed. In general, clinical treatment does not control the lesion, requiring debridement (with or without rib resection), which is associated with the use of flaps, with myocutaneous flaps being the most commonly used. In the service, two patients were treated, representing 0.07% of the cases treated, one of whom had previously undergone breast-conservative treatment. One patient was submitted to resection of the chest wall, and the two cases underwent reconstruction with latissimus dorsi flap. **Conclusion:** In the presence of ulceration/osteoradionecrosis, a careful evaluation should be performed to rule out the presence of osteomyelitis. Clinical treatment is generally not effective. Surgical debridement with resection of the affected area, antibiotic therapy, and use of myocutaneous flaps are good options for early recovery and local control.

Keywords: breast neoplasms; osteoradionecrosis; osteomyelitis; surgical flaps; chest wall.