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28644 – POST-RADIATION MORPHEA AS A COMPLICATION OF TREATMENT FOR INVASIVE DUCTAL CARCINOMA: A CASE REPORT

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Introduction: Invasive ductal carcinoma (IDC) is the most common histological type of breast cancer, accounting for between 80% and 90% of cases. Treatment typically involves surgical removal of the tumor. Depending on the staging of the disease, hormonal therapy, chemotherapy, or radiotherapy (RT) may be necessary. Although RT has proven to be an excellent therapy for IDC, significantly reducing local recurrence and increasing survival rates, only about 10% of cases are without complications. Post-radiation morphea (PRM), also known as localized scleroderma, is a rare complication associated with radiotherapy, affecting two out of every thousand patients. It involves a circumscribed inflammation with collagen accumulation in the dermis, which can progress to fibrosis of the affected tissues. Due to its rarity, PRM is often mistaken for radiation-induced fibrosis or even infectious conditions. Treatment for PRM includes antibiotics, corticosteroids, and phototherapy, with surgical removal reserved as a last resort. Although rare, PRM can lead to significant complications, highlighting the importance of accurate diagnosis and appropriate management. **Case Report:** A 66-year-old woman with a prior medical history of chronic obstructive pulmonary disease, previous hysterectomy, and saphenectomy; family history of cancers—sister deceased from breast tumor, father a smoker who died of lung cancer, and mother deceased from colorectal tumor. During a gynecological review and screening examination, a lesion was detected in the right breast. Clinically, it appeared as a palpable lesion at the union of the upper quadrants of the right breast. Histopathological analysis (HPA) concluded the lesion was an invasive ductal carcinoma. HPA Results: estrogen receptors positive (70%), Ki-67 nuclear protein present (25%), and epidermal growth factor receptor 2 (HER-2) indeterminate but positive on fluorescence in situ hybridization (FISH). The initial treatment plan involved neoadjuvant immunotherapy with monoclonal antibodies Paclitaxel, Trastuzumab, and Pertuzumab. Subsequently, quadrantectomy of the right breast and sentinel lymph node biopsy were performed. Based on histopathological staging, the tumor was classified as ypT1aN0. The subsequent plan included radiotherapy with Trastuzumab and Anastrozole. After some treatment time, the patient developed pain in the previously treated breast, along with skin color changes and retraction. A biopsy was performed, which showed mild ductal dilation and isolated stromal calcification, without signs of inflammatory process. The skin exhibited dermal and hypodermal sclerosis with perivascular lymphoplasmacytic inflammatory infiltrate in both tissue layers. Thus, the possibility of PRM was considered. **Conclusion:** Although rare, post-radiation morphea is a radiological treatment reaction that requires early diagnosis to optimize therapeutic response and prevent more severe prognoses. Patients with breast cancer have a higher prevalence, with initial signs potentially manifesting acutely or even years after radiotherapy. Therefore, early detection of this complication is crucial to prevent irreversible tissue damage and sequelae, given the current available therapeutic options.