AB008. Synchronous thymic and breast malignancies: a single institutional experience

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Abstract: Breast cancer is the most frequent neoplasm in female population. Conversely, thymic epithelial tumors (TETs) are rare diseases, often discovered in late stages. TET patients have a high risk of developing secondary malignancies compared with general population, with an incidence rate from 8 to 31%. We recently observed the synchronous appearance of both these neoplasms in two patients. The first patient, a 60-year-old female, was diagnosed with breast cancer. She underwent quadrantectomy and sentinel axillary lymph node dissection. Pathological diagnosis was invasive breast cancer non special type (NST), G2 pT1 N0, estrogen receptor (ER) 95%, progesterone receptor (PR) 90%, human epidermal growth factor receptor 2 (Her2) negative, Ki67: 30%. Staging work-up (chest X-ray followed by CT scan) discovered a solid mass of 70 mm in the anterior mediastinum, suspect for thymic tumor lesion, that also showed a tracer uptake at FDG scan (SUVmax 10). Patient underwent thymectomy with pathologic diagnosis of thymoma, subtype B2/B3, stage pT1a pN0 (AJCC TNM 8th edition). The second patient, a 62-year-old woman experiencing post-COVID persistent dyspnea, underwent a CT scan and an FDG PET scan. Imaging showed a thoracic lesion suspicious for thymic neoplasm infiltrating the chest wall (tracer uptake SUVmax 6.7) and simultaneously two contrast-enhanced nodules, one in each breast (left breast: 15 mm, SUVmax 2; right breast: 20 mm, SUVmax 2.6). Surgical biopsies were performed in all the 3 lesions. The pathological diagnoses were: (I) non keratinizing squamous cell carcinoma of the thymus; (II) invasive left breast cancer (NST) ER 90 %, PR 30%, Her2 negative, Ki67: 10%; (III) invasive right breast cancer (NST) ER 90%, PR 30%, Her2 positive (3+), Ki67 10%. The presence of synchronous thymic and breast malignancies appears to be very singular and requires personalized treatment strategies. Furthermore, additional studies are needed to understand if TETs and their related immune system dysregulation could increase the risk of secondary tumors, or whether genetic disorders might be responsible for an increased predisposition to develop synchronous malignancies. In both scenarios, future studies should explore the utility of tailoring screening procedures for TET patients.

Keywords: Breast; thymic epithelial tumors (TETs); risk

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