

COLLISION BREAST CANCER AND CHRONIC LYMPHOCYTIC LEUKEMIA/SMALL LYMPHOCYTIC LYMPHOMA IN A SINGLE LYMPH NODE (CLINICAL CASE)

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Collision synchronous tumors that are found at the same anatomical site are very rare. Their diagnostics, staging and treatment is very complicated. Here we present a clinical case of collision tumor in a single lymph node which consists of breast cancer and chronic lymphocytic leukemia/small lymphocytic lymphoma. The management of such cases is discussed.

Key Words: breast cancer, chronic lymphocytic leukemia/small lymphocytic lymphoma, regional lymph node, collision tumors, simultaneous tumors.

DOI: 10.32471/exp-oncology.2312-8852.vol-43-no-3.16486

The coincidental presentation of tumors is rare. Presence of collision tumors, which occur at the same anatomical site, is even more unusual. According to Vogt *et al.* [1], the frequency of multiple primary tumors is reported in the range of 2–17%.

Simultaneous presentation of breast carcinoma and lymphoma is very rare, however it has been already reported [2–5] as well as their collision coexistence [6]. Epidemiological factors that can enhance the possibility of such combined disease include previous treatment exposures as well as some cancer predisposition syndromes (for example, ataxia-telangiectasia or CHEK2-associated Li-Fraumeni syndrome [7]).

Presence of primary multiple tumors increases the risk of misdiagnosing. Moreover, it inevitably complicates staging and treatment approaches. Here we present a case of simultaneous detection of breast cancer metastasis and chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) in a single lymph node.

CASE

The 72-year-old patient underwent family doctor consultation after she had rapidly felt dizziness. General blood analysis showed marked lymphocytosis ($10 \cdot 10^9$) and breast mass was also detected. Computed tomography scan showed systemic lymphadenopathy. The patient was directed to the oncology hospital for further investigation. Excisional diagnostic axillary lymph node biopsy and breast trephine biopsy were performed.

The lymph node specimen showed breast cancer metastasis of no special type at the periphery and large area of small monomorphic lymphocytes occupying most of the space and effacing the

architecture of the node (Fig. 1). Suspicion for lymphoma indicated conducting of additional immunohistochemistry which showed CD20⁺, CD3⁻, Ki-67⁺ 25%, CD10⁻, CD5⁺, CD23⁺, Cyclin D1⁻ reactions in the suspected area specifying the diagnoses of CLL/SLL (Fig. 2). Breast cancer metastasis in the same lymph node showed positive reaction with estrogen (90% 3+) and progesterone (40% 1+) in the conforming area (Fig. 3). Breast biopsy showed identical moderately differentiated infiltrative breast carcinoma of no special type (estrogen receptors positive, progesterone receptor positive and human epidermal growth factor receptor 2 positive). Bone marrow trephine biopsy confirmed CLL.

As breast carcinoma and CLL were simultaneously confirmed in the same lymph node, the diagnosis of collision tumors was made. Both diseases were not notable in her family history. Patient denied “B” symptoms including night sweats,

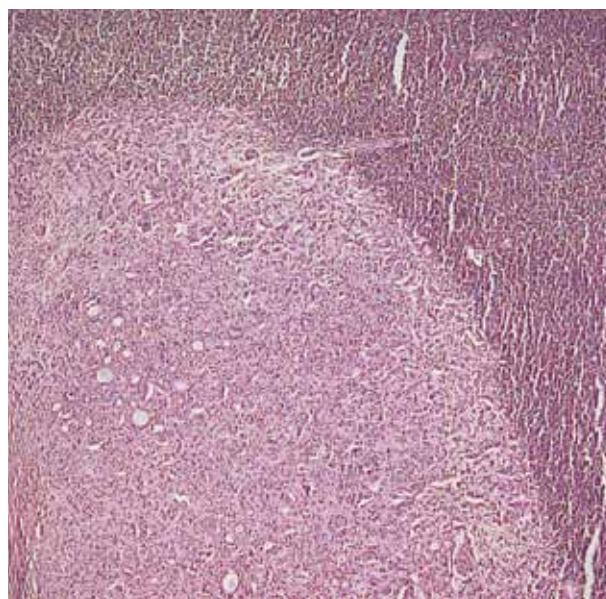


Fig 1. A single lymph node with breast cancer metastasis on the left side and small lymphocytic lymphoma on the right side. H&E, $\times 100$

Submitted: December 4, 2020.

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Abbreviations used: CHOP – cyclophosphamide, doxorubicin, vincristine, prednisolone; CLL – chronic lymphocytic leukemia; SLL – small lymphocytic lymphoma.

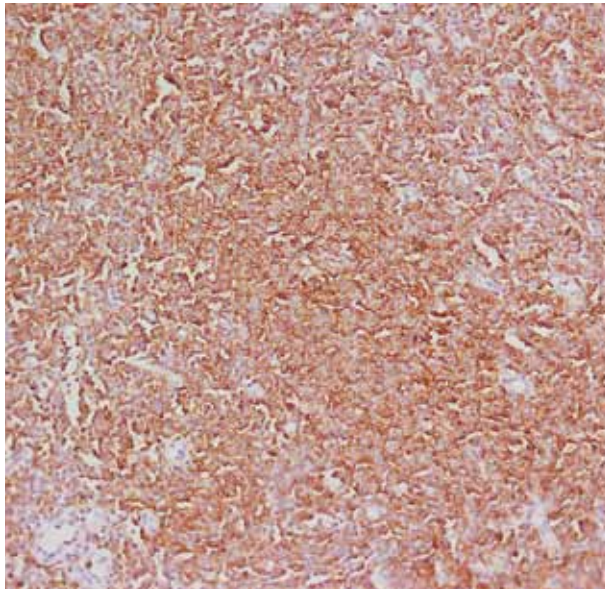


Fig. 2. CD20-positive reaction in lymphoma area, × 200

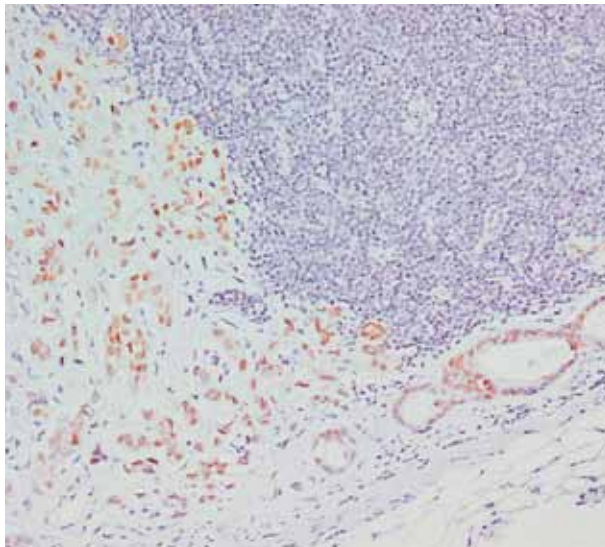


Fig. 3. Positive estrogen reaction in breast carcinoma, × 200

weight loss, and fever. She was staged as T2N1Mx (stage 2) for the breast cancer with Mx designation because of systemic lymphadenopathy which was shown by CT. The patient underwent courses of CHOP (cyclophosphamide, doxorubicin, vincristine, prednisolone) chemotherapy and was planned for surgery.

DISCUSSION

All CLL/SLL patients have more than double risk of developing a second primary malignancy, especially those who had been treated with systemic therapy [8, 9]. Similarly, women with breast cancer had a 30% excess risk for second malignancies, particularly colorectal cancer, lymphoma, melanoma, endometrium and kidney cancers [10]. In our case, CLL was diagnosed at the same time as breast carcinoma and we cannot estimate what disease was first to arise. Patient didn't have any special treatment before and any genetic predisposition had not been found also. Interestingly, that

we observe both CLL and breast carcinoma in the same lymph node and can accordingly assume that presence of one of these combined diseases could contribute to emergency of the second.

The treatment of patients with simultaneous presentation of different tumors is a challenge for oncologist. Treatment should be chosen in the way it could be effective for different types of tumor and to minimize toxicity in the same time. In this patient case, CHOP chemotherapy was chosen because it can be effective for lymphoma and breast cancer as well.

In study where 209 non-Hodgkin lymphoma patients were investigated, 6 patients had synchronous malignancy, 5 of which were completely asymptomatic and it was revealed only by positron emission tomography — computed tomography examination [11]. Another study with 200 esophageal cancer patients who underwent positron emission tomography — computed tomography for staging, showed that 17% of them had synchronous multiple primary tumors, namely in the stomach, head and neck regions, colon and lung [12]. All of the above indicates the need of adequate clinical, imaging and histological analysis.

This case alerts us about existence of collision tumors. Awareness of synchronous malignancy improves its early detection and correct treatment, which is complicated and requires collaboration of multidisciplinary team.

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ПОЄДНАННЯ КАРЦИНОМИ МОЛОЧНОЇ ЗАЛОЗИ ТА ХРОНІЧНОЇ ЛІМФОЦИТАРНОЇ ЛЕЙКЕМІЇ/ЛІМФОМИ З МАЛИХ ЛІМФОЦИТІВ В ОДНОМУ ЛІМФАТИЧНОМУ ВУЗЛІ (КЛІНІЧНИЙ ВИПАДОК)

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Випадки синхронних пухлин, що трапляються в одній анатомічній зоні, відмічають дуже рідко. Їх діагностика та лікування є складним завданням. У цій статті наведено випадок поєднання раку молочної залози та хронічної лімфоцитарної лейкемії/лімфоми з малих лімфоцитів в одному лімфатичному вузлі. Обговорюється ведення таких пацієнтів та зроблено огляд літератури.

Ключові слова: рак молочної залози, хронічний лімфолейкоз/лімфома з малих лімфоцитів, регіонарні лімфатичні вузли, колізійні пухлини, одномоментні пухлини.