Benign nevus inclusions in a node with primary squamous carcinoma of tongue

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A 65-year-old female presented with an ulcerative lesion over the left lateral border of the tongue for six months which had increased in size gradually. There was a history of chewing betel nuts, pan masala and betel leaf. The biopsy of the lesion revealed squamous cell carcinoma, following which per oral wide-excision of the lesion with ipsilateral supraomohyoid neck dissection was done. Gross examination of the excised specimen of the tongue showed an ulcer-infiltrative tumor measuring 3.6 \times 2.5 \text{ cm} and the tumor was 1.4 \text{ cm} in thickness. The nodes dissected from different levels ranged in size from 0.5 \text{ cm} to 1.5 \text{ cm} and were grossly unremarkable. Microscopically, the tumor of tongue was confirmed as moderately differentiated squamous cell carcinoma with free surgical margins of resection and without any perineurial invasion and lymphovascular emboli. In all, 28 nodes were examined and none showed metastatic deposits. However, two of these nodes located in Level III incidentally showed aggregates of small to medium-sized oval-shaped cells with indistinct cell borders arranged in nests within the capsular portion of the lymph node [Figure 1]. The cells had centrally placed round nuclei with a diffuse fine chromatin pattern, surrounded by a fair amount of pale staining clear cytoplasm. Nucleoli were inconspicuous and no mitosis was seen [Figure 2]. Cells in the periphery contained fine and coarse, brown pigmented melanin granules.

Her postoperative course was uneventful and she received adjuvant radiotherapy of 60 Grays in 30 fractions in 42 days. The clinical examination of the patient revealed a tiny nevus at the nape of neck on the left side, which was present since birth and did not reveal any symptoms or signs of malignant transformation. Postoperative examination of the oral cavity was unremarkable.

Discussion

Benign nevus inclusions (BNI) in lymph nodes have been described as aggregates of nevus cells in the lymph node hilus, capsule, or trabeculae. These are usually incidental and are asymptomatic. Among patients with melanoma, undergoing lymphadenectomy, 3-28% of patients have had BNI. In patients with melanoma, BNI were found in 0.12-0.54% of nodes from full lymph node dissections, 1.2% of nodes from selective lymph node dissections and 3.9-13% of sentinel lymph nodes. The increase was attributed to extensive serial sectioning and use of ancillary techniques such as immunohistochemistry. Their frequency is less in lymphadenectomy specimens for breast carcinoma, having been found in 0.33% of the cases and...
in 0.017% of the lymph nodes examined.\textsuperscript{[1]} The incidence in cervical nodes is much lower and two cases of squamous cell carcinoma, one of tonsil and the other of larynx have been found in the literature, to be associated with incidental detection of BNI.\textsuperscript{[1,4]} It is extremely uncommon to find BNI in a neck dissection from squamous cell carcinoma of oral cavity. The high incidence of BNI in malignant melanoma patients is explained partly by the fact that these are skin-draining lymph nodes.\textsuperscript{[2]}

Benign nature of the nevi cells and their location along the fibroskeleton of lymph node usually does not cause problem in recognizing BNI, as seen in this case.\textsuperscript{[3]} But an unusual involvement of lymph node parenchyma can cause a great difficulty in differentiating it from metastatic melanoma. The latter are characterized by the sinusoidal location of the cells and the malignant nature of the cells with prominent nucleolus and mitotic figures. Benign nevus inclusions can cause a pitfall in the diagnosis during reporting of sentinel nodes and fine needle aspiration cytology.\textsuperscript{[2]} Our case did not pose any diagnostic challenge in the routine examination. Malignant melanomas have been reported to develop from BNI.\textsuperscript{[5]} Hence, these are considered as a potential source of primary melanoma in lymph node. The histogenesis of BNI is controversial and two theories have been postulated, each having facts and observations favoring and refuting the other.\textsuperscript{[1,3,6]} The first proposes that these are due to arrested migration of neural crest progenitor cells during embryonic development and the second postulating that BNI result from transport of cells from cutaneous lesions to lymph nodes, and are termed mechanical transport or benign metastasis.\textsuperscript{[1,3,6]}

Awareness of the entity of BNI in lymph node with their typical location and benign cellular features will help pathologists to establish the correct diagnosis. This case and images are presented for the extreme rarity of occurrence of BNI in a draining node with a primary squamous carcinoma of the tongue.

References


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