

65. THE NUMB CHIN SYNDROME AND LYMPHOMAS

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Introduction. The Numb chin syndrome (NCS) also known as mental neuropathy is a rare sensory neuropathy characterised by oral and lower face numbness, often in association with jaw pain and paresthesia. The hypoesthesia usually involves the lower lip, chin and/or lower anterior teeth mucosa. The clinical acknowledgement of the NCS is important mainly because frequently can be the first clinical manifestations of an occult malignancy. Breast cancer and non-Hodgkin lymphoma are the most common reported causes of NCS. Hypoesthesia can occur unilaterally or bilaterally. Thorough diagnostic evaluation should always be performed when no clear cause is evident.

Aim of study. The first report of mental neuropathy as the initial presentation of malignancies dates from 1963. The mental nerve has no motor fibres that is why the NCS is a purely sensory neuropathy. The mandibular branch of the trigeminal nerve leaves the skull through the foramen ovale dividing into two trunks: an anterior motor trunk for mastication muscles and a posterior sensory trunk passing through the mandible and forming the inferior alveolar nerve. The last exits the mental foramen as the mental nerve, responsible for the sensation of the lower lip and the skin of the chin. In most cases, the neuropathy results from mechanical compression or tumour infiltration. The most common haematologic neoplastic cause is non-Hodgkin lymphoma (NHL). The NCS is an under-recognised condition in spite of the fact that NCS is vastly documented in the literature. Thus, the lack of awareness causes delay in diagnosis and treatment.

Methods and materials. Desktop research with systematic review on Medline, PubMed, Mendeley, Google scholar and Google searching for articles published in English until February 28, 2022 with the search terms “Hodgkin and non-Hodgkin disease,” “lymphoma,” “neurolymphomatosis” in combination with “Numb Chin syndrome,” and “mental neuropathy”.

Results. Usually, the NCS is the first sign of recurrence or metastasis in patients with a history of malignancy. Often though, the NCS is the first manifestation in hematologic malignancies, preceding the diagnosis of the primary tumour. The NCS can underline many malignant conditions, including lymphoma, acute leukaemia, Burkitt lymphoma, multiple myeloma, Ewing sarcoma, melanoma, but also breast, lung, esophageal colon and prostate cancers. The pathophysiology of NCS can vary from direct compression of the mental nerve by the tumour, leptomeningeal invasion or lesion of the bone at the mental foramen. Heavy infiltration of tumour cells in the trigeminal nerve and destruction of axons and myelin in the mandibular nerve have been reported in post-mortem studies. A particular vulnerability of inferior alveolar nerve/mental nerve to malignant alteration is due to their tortuous course through the mandibular bone. Is interesting though that the bilateral NCS are more often associated with hematologic malignancies than with solid malignancies. This could be explained by the infiltrative character of the hematologic malignancies versus the solid tumours.

Conclusion. The NCS may be a subtle sign of occult malignancy progression or recurrence or disease progression in patients with a history of cancer; • Thus, the panoramic radiography of the jaw, computed tomography (CT) or magnetic resonance image (MRI) of the jaw, face, and brain makes shall be compulsory for every NCS; • The most common non-haematologic neoplastic cause of NCS is breast cancer, while the most common haematologic neoplastic cause is NHL; • The exact pathophysiology of NCS is still unclear. Currently known mechanisms include direct compression of the mental nerve by tumour mass, leptomeningeal invasion or a bony lesion at mental foramen. However, other mechanisms may also exist, such as dural lesions.