Incidental Finding of Medullary Thyroid Carcinoma Metastasised to Cervical Nodes in a Neck Dissection Specimen

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Dear Sir,

MTC is a rare tumour of neuroendocrine origin arising from parafollicular cells which produce calcitonin. MTC accounts for 1-2\% of thyroid neoplasms. The population incidence for MTC is 0.1 per 100,000 in Ireland\textsuperscript{4}. 75\% of cases are sporadic and 25\% are associated with multiple endocrine neoplasia (MEN) type IIA and IIB with autosomal dominant inheritance due to germline mutation of the RET proto-oncogene.

We present a case of a 64-year old male with a past history of a T1 SCC of lower lip, who presented with an enlarging mass arising from the right inferior alveolar ridge, and extending to anterior floor of mouth. Positron emission tomography (PET) CT revealed a destructive lesion invading anterior table of mandible, with no abnormal FDG uptake in the cervical chain or the thyroid gland. Biopsy of the lesion confirmed SCC, and the malignancy was staged T4aN0M0 (Stage IVa).

Following multidisciplinary discussion, the lesion was resected with 3cm margins. A partial mandibulectomy, floor of mouth resection and right selective neck dissection including levels I to IV was undertaken with fibular free flap reconstruction.

Histopathological examination revealed a 4.5cm well differentiated SCC with clear margins and forty-three lymph nodes free for metastatic SCC deposits. There was however an incidental finding of two pathologically enlarged nodes. Haematoxylin and eosin staining revealed granular cytoplasm with round cells in nests, demarcated by fibrous bands. There was strong immunopositivity for calcitonin in tumour cells. These were consistent with metastatic MTC, the larger being 32mm.

Targeted ultrasound of the thyroid gland revealed no nodules. Total thyroidectomy and bilateral central neck dissections were undertaken. Serum calcitonin and carcinoembryonic antigen (CEA) levels were measured and RET proto-oncogene screening performed. Histopathological examination of the gland
revealed C cell hyperplasia with no primary focus of invasive carcinoma. No preoperative calcitonin levels are available. Postoperative calcitonin and CEA levels were undetectable at six months follow up.

Incidental medullary thyroid carcinoma to cervical lymph nodes has not been previously reported in the literature to our knowledge. Well differentiated thyroid carcinoma (WDTC) (both papillary and follicular) metastasis as incidental findings in neck dissection specimens have previously been reported with an incidence of 3-8% [5].

The clinical significance of an incidental discovery of WDTC metastasis should be discussed in the light of a number of relevant factors, including the thyroid ultrasonographic results, the risks of any potential surgery and the prognosis of the HNSCC. The incidental finding of WDTC in a neck dissection specimen does not necessarily require aggressive surgery of the thyroid gland[6]. However, in those patients with reasonable life expectancy, total thyroidectomy and dissection of central lymph node compartments should be carried out[7]. Since this patient is the first reported case of incidental medullary thyroid carcinoma metastasis to cervical nodes, the prognostic significance has not been reported in the literature to our knowledge.

We present this case to illustrate an extremely rare case of an incidental MTC metastasis to the cervical lymph chains, and to discuss the challenges that have arisen in this patient’s management.

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**References**