Occult papillary thyroid carcinoma presenting as extrathyroidal solitary neck cyst

Sir,

Papillary carcinoma of the thyroid gland can undergo cystic transformation. This process may also occur in the metastatic lymph nodes, in which a subcortical liquefaction necrosis results in a cystic mass; this is more common in younger patients. Occult papillary thyroid carcinomas are usually <1.5 cm across, and account for some 25% of papillary carcinomas. Papillary carcinoma of the thyroid can present by regional lymph node metastasis from an occult primary source and (very rarely) may be the first and sole manifestation of the disease. We present two cases with a brief review of the literature.

Patient 1, a 55-year-old man, presented with an anterior neck mass, which was medial to right carotid angle. There were no associated symptoms. The mass was mobile, non-tender, non-fluctuant, firm, measuring 2 × 3 cm. Physical examination of the thyroid gland was within normal limits. CT of the neck demonstrated a single, oval-shaped, enlarged lymph node of low attenuation and almost-fluid density located anteriorly and medially to the right carotid angle. There was a thin rim of peripheral enhancement. The thyroid gland was within normal limits.

A fine needle aspiration (FNA) of the mass was negative for malignant cells. After resection, frozen section showed lymph-node hyperplasia. Final histopathological examination revealed a cyst and associated lymph-node tissue. The cyst contained accessory glandular elements, some resembling thyroid tissue (Figure 1). Histochemical staining for thyroglobulin was positive. A total thyroidectomy with right modified lymph-node dissection was performed. Four minute microscopic foci of a follicular variant of papillary cancer were diagnosed. (Figure 2). The patient was treated with radioactive iodide and suppressive therapy with levothyroxine. He is in remission one year after the surgery.

Patient 2, a 47-year-old man, presented with a progressively enlarging neck mass. There were no associated symptoms. Physical examination of the thyroid gland was within normal limits. The...
mass could be felt on the right mid-jugular side, measuring around 8.3 cm. It was mobile, rubbery, and non-tender, with no movement when swallowing. It was not attached to the thyroid. An incisional biopsy and drainage of the cyst was performed; the specimen was consistent with blood and cystic fluid. A second exploration of the right neck was done and the mass removed. Cytological examination was consistent with papillary thyroid carcinoma. A total thyroidectomy was performed. Histopathological exam was consistent with a papillary thyroid carcinoma 1.3 cm in size. He was treated with radioactive iodide and suppressive doses of levothyroxine. He has been in remission for 20 years.

These two cases demonstrate the potential for papillary thyroid carcinoma to present as extrathyroidal neck cyst as the first and sole clinical manifestation of the disease. To our knowledge, about 20 cases were reported over the last 30 years. A high level of suspicion of papillary carcinoma with cystic metastasis is crucial while evaluating an extrathyroidal cystic neck mass, even in the presence of a normal physical examination of the thyroid gland.

Branchial cleft cysts and the main cervical lymph nodes share the same location along the sternocleidomastoid muscle, therefore diagnostic difficulties may occur in differentiating these cystic masses that are caused by primary branchiogenic carcinoma or metastatic tumours.4 Lateral cervical cysts are usually benign lesions, occurring predominantly in young people.1 Malignant lateral cervical cysts are less frequent, and arise mainly from upper respiratory and digestive tracts. In these cases, the primary tumour can be diagnosed by different diagnostic procedures, such as CT or MRI. Tumours arising in the thyroid gland, in particular occult papillary carcinomas, are mostly not detectable by these imaging methods.1

Ultrasoundographic examination seems to be the most useful diagnostic tool for the study of the thyroid gland and a cystic mass in the neck. Tumours as small as 1 to 2 mm in diameter can be detected with the use of high-resolution transducers (7.5 MHz). Ultrasoundography of a malignant cervical mass is useful in confirming the cystic nature of the lesion as well as demonstrating its complex pattern by the presence of solid elements in the cyst wall.5 Thyroglobulin staining of the fluid can be demonstrated to confirm the diagnosis as in the first case.

Careful history-taking, head and neck examination, endoscopic examination of upper digestive and respiratory tract, fine-needle aspiration, cytological examination of aspirated fluid, thyroglobulin staining, excisional biopsy of the lymph node, and especially ultrasound with high resolution transducers, are the diagnostic measures of a cystic node in the neck. Physicians should consider the possibility of a nodal metastasis from an occult regional malignancy including papillary carcinoma of the thyroid gland whenever a cystic lesion in the neck is discovered.

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References