

Papillary carcinoma thyroid coexisting with squamous cell carcinoma: series of two cases

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Papillary thyroid cancer metastasizing to cervical nodes coexisting with squamous cell carcinoma of the upper aerodigestive tract is a rare finding. To the best of our knowledge, nearly 43 such cases have been reported in the literature. We present two such cases that were managed in our hospital. The first was a case of carcinoma of the lower alveolus with papillary carcinoma thyroid; the other was a case of carcinoma of the hypopharynx with an associated papillary carcinoma. The rarity of its presentation along with the dilemma in the management in such a patient has been discussed here, with a review of the relevant literature.

Keywords:

alveolus, hypopharynx, papillary thyroid carcinoma, squamous cell carcinoma

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Case 1

A 50-year-old male patient presented to our outpatient department with a swelling in the oral cavity for 9 months. This was associated with pain and difficulty in mouth opening for the past 1 month. The swelling was insidious in onset, progressing gradually. He was a chronic smoker and consumed alcohol for the past 10 years.

On clinical examination, a 4.5×3 cm ulceroproliferative growth was noted involving the right lower alveolus: from the first premolar tooth to the third molar tooth. The upper and lower gingivobuccal sulcus and the floor of the mouth were free of tumor. The patient had a grade 2 trismus. No ankyloglossia was noted. The swelling extended laterally to produce a 3×2 cm hard swelling over the corresponding right cheek area, with involvement of the skin over the cheek. Examination of the neck indicated a 1×1 cm hard mobile level 2 node on the right side. A clinical diagnosis of a malignancy of alveolus with neck metastasis was made, with staging as T4aN1Mx.

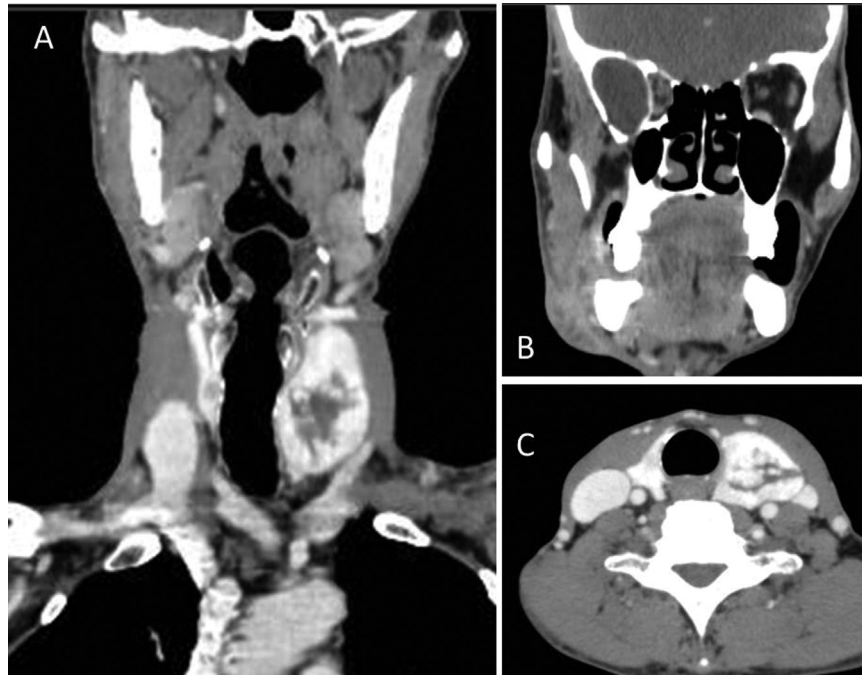
Biopsy from the alveolar lesion was found to be a well-differentiated squamous cell carcinoma. Chest radiography and routine blood investigations were found to be normal. We proceeded with a contrast-enhanced computed tomogram of the neck (Fig. 1a–c). This showed an enhancing lesion involving the right lower alveolus from the level of the first premolar to the retromandibular trigone, with erosion of the alveolar process of the mandible. There was evidence of infiltration of the right masseter, medial pterygoid,

and subcutaneous tissue along with skin inferior to the masseter. There was also a well-defined heterogeneously enhancing nodule 4.5×3.3×3.1 cm in size with a nonenhancing center noted in the left lobe of the thyroid. Ultrasound of the abdomen was found to be normal.

The patient was planned for a wide local excision, segmental mandibulectomy, right-sided modified radical neck dissection, and reconstruction using a pectoralis major myocutaneous flap. In view of the enhancing nodule of the thyroid, we had obtained the consent of the patient to perform a total thyroidectomy, and had planned for a frozen section of the thyroid tissue intraoperatively. A circumferential incision was made around the cheek swelling and extended into the neck as a modified Schobinger incision (Fig. 2a). Neck dissection was commenced. The sternocleidomastoid on the right side was removed. Neck nodes along with fibrofatty tissue that were found in levels 1–4 were removed. The ipsilateral internal jugular vein and the spinal accessory nerve were preserved. The right supraclavicular region showed a 2×1 cm hard blackish lymph node that was highly suspicious for a metastatic papillary thyroid node. Frozen section of thyroid tissue indicated papillary carcinoma thyroid. The left lobe of the thyroid was found to be enlarged

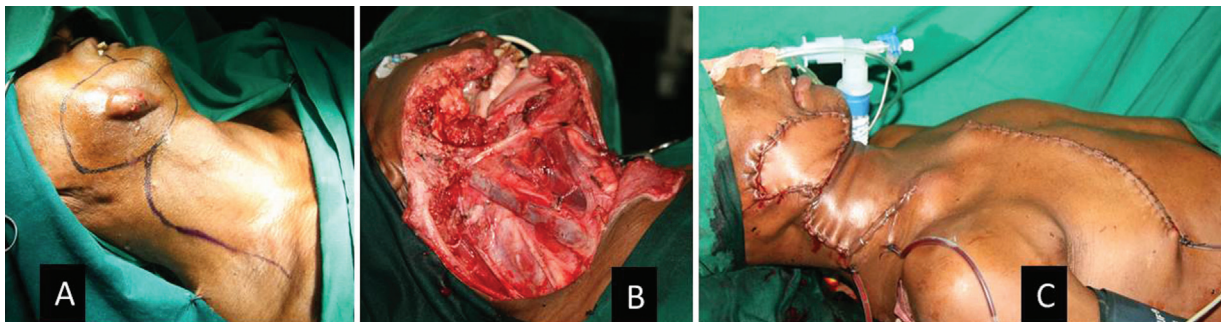
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Figure 1



(a) Contrast-enhanced computed tomogram of the neck coronal view showing an enhancing lesion involving the right lower alveolus with erosion of the alveolar process of the mandible. A well-defined heterogeneously enhancing nodule with a nonenhancing center noted in the left lobe of thyroid can also be seen. (b) Coronal section of the right alveolar growth. (c) Axial section of the thyroid gland.

Figure 2



(a) Preoperative photograph showing a circumferential incision made around the cheek swelling and extended into the neck as a modified Schobinger incision. (b) Intraoperative photograph after completion of wide local excision of growth, segmental mandibulectomy, right-sided modified radical neck dissection, and reconstruction using a pectoralis major myocutaneous flap. (c) Postoperative photograph after completion of surgery.

(4×3 cm), whereas the right lobe measured 1.5×0.5 cm. Both the lobes were hard on palpation. The patient underwent a total thyroidectomy with central compartment neck dissection. Wide local excision and segmental mandibulectomy with a reconstruction using bipaddled pectoralis major myocutaneous flap were performed subsequently (Fig. 2b and c). The patient had an uneventful postoperative course.

Histopathological examination of the alveolus specimen showed it to be a well-differentiated variant of squamous cell carcinoma. All the margins,

including the skin, were free of tumor. The resected sternocleidomastoid was free of tumor. The left thyroid lobe showed a circumscribed tumor composed of cells arranged in closely packed follicles with clearing of nuclei. Immunohistochemistry of the tumor cells was positive for CK-19. This was suggestive of a follicular variant of papillary carcinoma thyroid. On examination of the nodes, level 2, 3, 4, and 5 nodes of the right neck dissection were found to be metastatic papillary carcinoma.

In view of the coexistence of two different primary cancers in this patient, a very rare and interesting

presentation, the patient was planned for a radioiodine scan, which was found to be negative. Hence, the patient was planned for postoperative radiotherapy for the squamous component of the tumor. He received a total of 66 Gy in 33 daily fractions, two fractions per day, 5 days a week. The patient is disease free and has been on monthly follow-up for the past 3 months.

Case 2

A 55-year-old female patient presented to our outpatient department with complaints of swelling in the right side of the neck for the past 3 months, progressive dysphagia to solids for the past 2 months, associated with pain on swallowing. She had a history of betel nut chewing for the past 35 years.

On examination, the patient was found to be poorly built and emaciated. Examination of the neck indicated a 5×4 cm hard fixed swelling involving the right side of neck levels 2 and 3, with extension to the posterior triangle and involvement of the underlying skin (Fig. 3). A video-laryngoscopic examination indicated a slough-covered ulceroproliferative growth in the left pyriform fossa, extending superiorly, to involve the left aryepiglottic fold, and medially to involve the postcricoid region. Bilateral vocal cords were found to be mobile and normal. A clinical diagnosis of a malignancy of the hypopharynx with neck metastasis was made, with staging as cT3N2aMx.

Direct laryngoscopy under local anesthesia and biopsy of the hypopharyngeal growth showed the growth to be a squamous cell carcinoma-moderately differentiated type. Fine-needle aspiration of the right cervical node showed features of a metastatic squamous cell

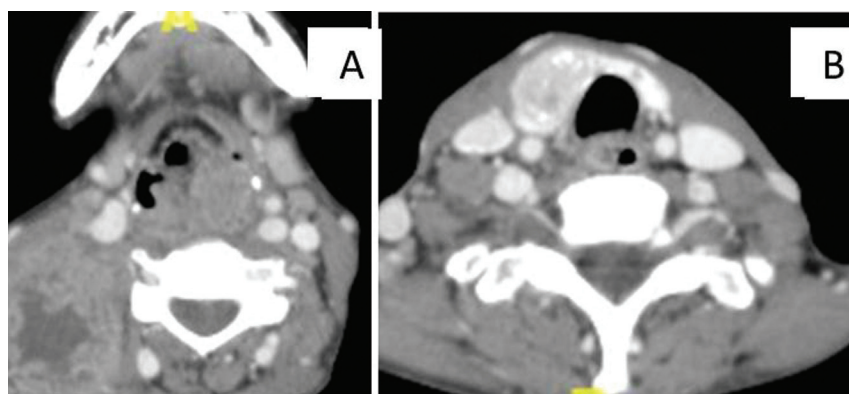
carcinoma. For further evaluation of the extent of the lesion, we proceeded with a contrast-enhanced computed tomogram of the neck (Fig. 4a and b). This showed a heterogeneously enhancing soft tissue thickening involving the left pyriform sinus and aryepiglottic fold, extending to the postcricoid region (C3–C7 cervical vertebral levels), with involvement of the left paraglottic space. There were multiple bilateral lymph nodes in levels 2 and 3 in the neck, with the

Figure 3



Clinical photograph of the patient with a hard fixed node involving levels 2 and 3, with extension into the posterior triangle.

Figure 4



(a) Contrast-enhanced computed tomogram of the neck axial view showing heterogeneously enhancing soft tissue thickening involving the left pyriform sinus and the aryepiglottic fold, extending to the postcricoid region. (b) Axial section at the level of the thyroid gland showing a heterogeneous hypodense nodule in the right lobe of the thyroid gland with few calcific specs and another nodule in the left lobe of the thyroid.

largest measuring 5.2×4 cm in the right level 2 region, with necrotic changes. The right lobe of the thyroid showed a heterogeneous hypodense nodule with few calcific specs, measuring 3.8×1.8×1.7 cm. The left thyroid lobe showed a hypodense nodule measuring 1×0.4 cm. Ultrasound-guided aspiration fine-needle aspiration cytology from the right lobe of the thyroid showed features of a papillary carcinoma of the thyroid (Bethesda category 6).

In view of the patient's general condition and nutritional status, the patient was planned for concurrent chemoradiotherapy for hypopharyngeal cancer. Sixty-six gray in 33 fractions over 6.5 weeks was administered concurrently with cisplatin chemotherapy, which was administered on days 1, 22, and 43.

Discussion

Squamous cell carcinoma is the most common cancer occurring in the oral cavity and other regions of the head and neck. Almost 50% of patients presenting with squamous cell carcinoma of the head and neck region also present with cervical metastasis [1]. This cancer has a predisposition for causing rapid progression and loco-regional recurrences [2].

The occurrence of a second cancer, in the form of a papillary carcinoma thyroid, coexisting with a squamous cell carcinoma of the head and neck is a rare phenomenon. To the best of our knowledge, nearly 43 such cases have been reported in the literature [3]. The management of a clinical scenario with two different malignancies in co-existence is a challenge to the clinician as well as a burden to the patient.

There seems to be a controversy on the origin of thyroid lesion metastasis. Some clinicians advocate this to be a malignant transformation of small collections of normal thyroid follicles in lateral cervical lymph nodes. The incidence of their malignant transformation was found to be as low as 0.3%, with the thyroid gland remaining disease free [4]. Others are of the opinion that there is a malignant transformation of a benign lateral aberrant thyroid tissue in lymph nodes [5,6].

The incidental finding of a metastatic papillary carcinoma in surgically dissected lymph nodes during the treatment of head and neck squamous cell cancer varied among the 42 cases reported in the literature [3]. Resta *et al.* [7] found the incidence to be 0.5% in 1500 patients with head and neck squamous cell cancer; eight (0.3%) such cases had been reported by

Vassilopoulou-Sellin and Weber [8]. An incidence of 1.6% was reported in a study carried out by Ansari-Lari and Westra [6]. León *et al.* [9] reported an incidence of 0.6%: five cases in 752 patients. However, the actual incidence may be higher as all these studies were carried out in neck dissections involving radical, functional, and selective types and not central neck [2].

The management in the case of papillary thyroid cancer in the cervical node is not uniform. Clark *et al.* [10] advocate total thyroidectomy in these cases as a normal thyroid gland with metastatic papillary carcinoma does not rule out small foci of carcinoma within the thyroid gland. However, according to Vassilopoulou-Sellin and Weber [8], the management wholly depends on the tumor behavior of the squamous component of cancer, and hence they advocate conservative treatment of the thyroid gland. Thyroidectomy can also be avoided in the case of metastatic papillary carcinoma if the thyroid gland is normal both clinically and on a technetium scan according to Ibrahim *et al.* [11]. It is, however, agreed upon by many authors that in incidentally detected tumors and tumors that are small and clinically occult, local treatment of thyroid and lymph nodes could ensure a recovery [7,9]. However, the onus of the treatment for the clinician falls on strict disease control of the squamous cell carcinoma (primary malignancy) rather than the papillary carcinoma as the squamous cell carcinoma has a higher incidence of rapid progression and loco-regional recurrence than papillary cancer.

Declaration of consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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