Abstract

Background: Neck dissection has been an adjunct surgical procedure in the management of malignancies affecting the head and neck region. Radical neck dissection was the original surgical procedure for the treatment of regional neck metastases. The aim of this paper is to report the management of a female patient with regional neck metastases from squamous cell carcinoma affecting the hard palate.

Methods: A case report of a 60-year-old patient with squamous cell carcinoma of the palate who later manifested with an enlarged unilateral cervical lymph node ten weeks after surgery on the primary site. A functional and selective neck dissection in which the accessory nerve, internal jugular vein and sternocleidomastoid muscle were preserved and only the lymph node at the IIa level was removed was carried out under local anaesthesia.

Results: The malignant ulcer on the palate was excised and the neck was dissected to remove the clinically enlarged lymph node. These procedures were uneventful and patient was referred for post-operative radiotherapy for possible residual tumours.

Conclusion: There is need to reduce the morbidity and mortality associated with the radical neck dissection and this has led to the use of various levels of selective neck dissections as in the case presented.

Key words: Functional, Selective, Neck dissection, Oral cancer

Introduction

Cancers of the head and neck region frequently disseminate to the deep cervical lymph nodes around the internal jugular vein. With this spread, the prognosis and survival rate of the patients depreciate. Surgery and/or radiotherapy is/are curative for both stages I and II of the disease while both therapies are palliative and should be combined in stages III and IV. Based on the TNM (clinical) classification, tumours of sizes less than 2 cm in the absence of regional nodal and distant metastases, belong to stage I, tumour size more than 2 cm in its widest diameter but less than 4 cm without regional nodal and distant metastases is stage II; when size is 4 cm or more, presence of regional lymph node metastases but no distant spread, it is stage III and when there are extensive local or regional nodal and/or distant spread, it is stage IV.

The prognosis with surgery is better than radiotherapy for the first two stages especially when neck dissection is done for suspected occult metastases. Neck dissection has been an adjunct surgical procedure in the management of malignancies affecting the head and neck region. Radical neck dissection described by Crile in 1906 was the original surgical procedure for the treatment of metastatic neck cancer. It can be done either when there is an occult or clinically detected metastases to the regional lymph nodes of the neck. Many authors have criticized the reasonability of radical neck dissection when regional spread is not certain in view of the risks and morbidities associated with these radical neck dissections. They have therefore, suggested a combination of surgery of the primary site with modified radical or selective neck dissections and radiotherapy of the neck for stages I and II.
malignancies especially when occult metastases are suspected. It is necessary to combine surgery of the primary site, radical neck dissection and radiotherapy of both primary sites and neck for stages III and IV, although it is still a palliative treatment approach. Despite the practice of this radical approach for these late stages and the fact that cure or control is not justified, some other workers have started advocating the use of selective neck dissections in the management of clinically involved cervical lymph nodes to combat the myriad of complications and mortality that accompany the radical approaches especially in the elderly and medically compromised patients.

We therefore report a case of functional and selective neck dissection (IIa) in a patient with squamous cell carcinoma of the palate who later presented with a clinically involved right jugulo-digastric lymph node.

**Case report**

A 60-year-old woman was referred to the Oral and Maxillofacial Surgery department of the University of Port-Harcourt Teaching hospital, in May 2006, with a 3-month history of painful, non-healing ulcer on the palate and palatal gingiva following extraction of the first upper right molar tooth. There was no positive history of alcohol or cigarette/tobacco consumption.

On examination at first presentation, the patient was not chronically ill-looking, not cachectic, not pale, not jaundiced and no detectable enlarged submandibular or cervical lymph node bilaterally. Systemic and extra-oral examination revealed no abnormality, no epistaxis or nasal discharge. On intra-oral examination, the oral hygiene was fair, calculus (++), the tongue, floor of mouth and gingiva of standing teeth appeared clinically healthy; all the teeth in the four quadrants were present except the right upper first molar leaving an empty socket that was not healing. No tooth was mobile or tender to percussion; there was also an ulcer which was tender, measuring about 3 cm in its widest diameter, extending from the margin of the palatal gingiva around the missing tooth to about 1mm beyond the midline of the palate. Anteroposteriorly, the ulcer extended from about 3 cm from the margin of the gingiva of the anterior teeth to about 2 cm anterior to the junction between the hard and soft palate. The ulcer had pseudomembranous sloughs on the floor with an indurated base and rolled-out edges. There was no spontaneous bleeding, but there was paraesthesia in the distribution of the greater palatine nerve around the missing tooth.

Intraoral x-ray (occlusal) view revealed no erosion or perforation of the palatine bone. A provisional diagnosis of squamous cell carcinoma of the palate was made and excision biopsy was done under local anaesthesia. The palatine bone was found to be intact at operation. The tissue removed was sent for histopathology which confirmed the diagnosis with margins that were free from tumour invasion. The facilities for frozen section were not available in the hospital at that period. There was remarkable healing of the wound following excision of the ulcer.

Ten weeks after the excision on the palate, the patient presented with an enlarged, tender right deep cervical (jugulo-digastric) lymph node and a diagnosis of cervical lymph node metastasis was made. The affected lymph node was removed under local anaesthesia. A 4 cm horizontal skin incision was made in the upper anterior region of the right side of the neck followed by a blunt dissection of the subcutaneous tissue, platysma and superficial/middle layer of the deep cervical fascia; the right sternocleidomastoid muscle was gently retracted to expose the deep cervical lymph node located anterior to the internal jugular vein. Careful dissection was done to remove the lymph node. Brisk bleeding from the hilum of the node was controlled and wound was sutured with 2-0 silk after thorough cleaning of the wound site with chlorhexidine. Antibiotics and anti-inflammatory drugs were prescribed and sutures were removed a week later. There were no intra-operative and immediate post-operative complications and the patient was later referred for radiotherapy to the neck for possible residual tumours. However the patient has not turned up for follow-up since the referral for radiotherapy.
In few cases, it is possible to detect this occult spread with fine needle aspiration cytology. It is well known that occult or clinically obvious metastases can involve the bilateral neck nodes especially in tumours of the anterior portion of the tongue and floor of the mouth.

Until a couple of decades ago, radical neck dissection in which all the groups of lymph nodes, lymphatic vessels and vital structures are removed, has been advocated for effective control of both occult and clinically positive neck metastases; in the last two decades, the modified radical neck dissection subtype III also referred to as the functional neck dissection by Bocca et al. in which the three vital structures which include the sternocleidomastoid muscle, internal jugular vein and accessory nerve are preserved is now widely practised and acceptable worldwide. The rationale behind these conservative approaches is to reduce the morbidity and mortality associated with the radical neck dissection by preserving many non-lymphatic structures and certain uninvolved neck nodes without compromising disease control. This is based on experimental studies of lymphatic drainage and clinical studies of the location of nodal metastases in the neck dissection contents by Fisch and Sigel.

In our management of this patient, considering the diagnosis of stage II malignancy with no evidence of cervical lymph node metastases at the initial period, as well as the lack of availability of radiotherapy in our centre and the long distance the patient had to travel to receive radiotherapy, the patient was not compelled to go for the treatment following surgery of the primary site. In actual fact, the patient expressed reluctance to travel a far distance. It has been documented in the TNM classification of the clinical staging of malignancies that when there is a clinically involved regional lymph node, then the malignancy has progressed to stage III of the disease. However, there could be occult metastases to the lymph nodes in stage I with increased incidence in stage II of the disease. The incidence of occult metastases is also higher in large, poorly differentiated and previously biopsied tumours as well as tumours affecting sites like the ventrolateral surface of the tongue and floor of the mouth. In poorly differentiated /anaplastic tumours, there is a high chance of occult spread to the regional lymph nodes and the risk of associated morbidities of radical neck dissection must be balanced with the strong possibility of spread of the disease. The committee of American Academy of Head and Neck Surgery and Oncology classified the neck nodes into six levels (I-VI) and in 2002, they revised the 1991 classification of neck dissection and subdivided the selective neck dissection (SND). It was made more specific in relation to the level of nodal involvement. The revised SND include the supraomohyoid neck dissection (SND; I, II, III), postero-lateral (SND; II, III, IV, V), lateral (SND; II, III, VI), and anterior neck dissections (VI).
However, in this report, only the lymph node at the antero-inferior part of the second level (IIa) was removed. Although, the submandibular and mid-jugular lymph nodes (Ib and III) were not enlarged clinically, there may be occult metastatic spread to these nodes (Ib and III). The patient was therefore, referred after the neck dissection for post-operative radiotherapy to ensure thorough disease control. It was however, not certain if the patient went for the radiotherapy because of the distance and lack of funds. Long-term follow-up of this patient has indeed been affected by the unavailability of radiotherapy machine in our centre. In conclusion, the adoption of less radical neck dissections in the control of nodal spread is beginning to gain ground in most cancer treatment centres in the developed countries but it is acknowledged that these procedures will be more beneficial where adjunct radiotherapy treatment is readily available. This case was considered worthy of presentation because of the minimal morbidity and mortality challenges the conservative neck dissection posed to the elderly patient.

References


