Missed Diagnosis

Biopsy of neck lumps in adults should be preceded by examination of the upper aerodigestive tract

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Summary: Premature biopsy of a potentially malignant neck node compromises patient survival. Despite documented evidence that biopsy of a malignant neck mass prior to a search for a primary source will increase the incidence of regional recurrence and distance metastasis, patients are often referred for head and neck assessment having already had a positive neck node biopsy. We maintain that biopsy of an asymmetrically enlarged cervical lymph node in an adult should be preceded by full upper aerodigestive tract evaluation to include indirect laryngoscopy, a high resolution computed tomography scan and panendoscopy with free field biopsy.

Introduction

The asymmetrical enlargement of one or more cervical lymph nodes in an adult has at least an 85% chance of being the result of malignant disease.¹ Seventy per cent of malignant cervical lymph nodes are metastases from primary head and neck cancers,² and 13% of patients with a primary head and neck cancer present with an otherwise asymptomatic metastatic neck lump.³ A thorough search for a primary head and neck cancer must be made in an adult with an enlarged cervical lymph node before resorting to a biopsy. A failure to observe this simple rule significantly reduces the patient's chances of survival and increases the risk of local wound complications.⁴ We present two cases in which a neck lump was removed before such a search was made and describe the clinical outcome.

Case reports

Case 1

A 65 year old female was seen by her general practitioner with a lump in the right jugulodigastric region. A diagnosis of a dermoid or a fibroma was made and the patient was referred to the minor operations clinic at the local hospital where she was placed on a waiting list for it to be removed. Thirteen months later a hard mass lying on the

external carotid artery was excised. Histology showed this to be a squamous cell carcinoma. The patient was therefore referred to the ear, nose and throat department and a search for a primary site was carried out. Indirect laryngoscopy demonstrated an ulcerating mass in the right pyriform fossa. The patient was treated by pharyngolaryngectomy and right radical neck dissection followed by radiotherapy. Ten months post-operatively multiple fungating tumour nodules appeared in the skin of the neck. Two months later the patient died of malignant cachexia being unable to swallow from massive local recurrence.

Case 2

A 59 year old male was seen in the casualty department with a firm indurated mass lying deep to the anterior border of the left sternomastoid muscle level with the hyoid bone. Aspiration needle cytology showed necrotic tissue cells. A diagnosis of a neck abscess was made and an incision and drainage was performed. However the swelling did not subside and 10 weeks later a mass clinically thought to be an infected branchial cyst was excised under general anaesthesia. Histology of the lump revealed squamous cell carcinoma and the patient was referred for an ear, nose and throat opinion. On examination the patient had bilateral but asymmetrical hard cervical lymphadenopathy and indirect laryngoscopy showed an ulcerating tumour in the left pyriform fossa. Biopsy of this revealed squamous cell carcinoma. The neck

wound never healed. Instead there was massive fungation at this site (Figure 1). Palliative radiotherapy was given and the patient died of malignant cachexia 18 months later.

Discussion

A firm non-tender enlarging mass in the neck, particularly in a patient over 40, should be considered to be a metastatic cancer from a primary lesion in the head and neck until proved otherwise.⁵ Painless rapidly growing cervical lymph nodes are likely to be malignant. Lymph nodes larger than 1.5 cm are more likely to be malignant as are hard nodes. Soft nodes are either benign or are lymphomas.⁶ Lindberg⁷ reviewed 2044 patients with previously untreated primary cancer of the head and neck and defined the incidence and topographical distribution of lymph node metastasis. His findings correlate with other published data.⁸⁻¹³ The most commonly encountered sites of cervical lymph node metastasis were the nasopharynx, oropharynx, base of the tongue, hypopharynx, supraglottic larynx, and the tonsillar fossa. Otolaryngological assessment, including

Figure 1 Fungating tumour from the site of incision.

examination of all epithelial surfaces (scalp, face, neck and upper aerodigestive tract mucosa using indirect mirror examination), will reveal a primary tumour in at least 70% of patients with head and neck malignancy¹⁴ which obviates the need for an excision biopsy of the neck lump. If a primary malignancy is not identified a proper planned search for the primary should be instigated. A haematological and radiological investigation should be carried out.

It has been shown that primary malignancies which cannot be seen at direct laryngoscopy may be identified by high resolution computed tomographic (CT) scanning.¹⁵ Many authorities therefore advocate CT scanning before examination under anaesthesia.⁶ If CT scanning and examination under anaesthesia have not located the primary malignancy a free field biopsy of the post nasal space, base of the tongue, unilateral tonsil and pyriform fossa should be performed as these regions have been shown to harbour clinically undetectable primary malignancies. A fine needle aspiration of a suspected malignant neck lump when the primary remains occult will diagnose as many as 95% of cervical metastatic squamous cell carcinomas but is much less accurate for other tumour types.^{16,17} A tissue diagnosis of squamous cell carcinoma in this instance gives no indication as to the site of the primary malignancy but allows the treatment of the occult primary to be planned without the need for an excision biopsy of the neck lump.

The situation may arise in which an endoscopic examination with field biopsies and CT scanning has failed to reveal a primary lesion, and needle aspiration has not given the tissue diagnosis in a potentially malignant neck lump. These patients with an occult primary account for 5% of all malignant neck lumps.¹⁸ Arrangements should then be made for the lump to be excised and sent for frozen section histology. This should be performed by a surgeon who is prepared, should the histology dictate, to proceed to a radical neck dissection.¹⁹ Biopsy of a metastatic lymph node deposit without prior investigation to find the primary lesion has been shown to increase the incidence of distant metastasis, to increase infection and fungation at the biopsy site, and to delay the diagnosis and treatment of the primary tumour.⁴ Furthermore any radical surgery may be compromised by an awkwardly placed skin incision as this must include excision of the biopsy site and any surrounding involved skin.⁴

We conclude that in order to maximize the patient's chance of survival an excision biopsy of an asymmetrical cervical lymph node should be performed only when full upper aerodigestive tract evaluation has failed to locate a primary malignancy. No surgeon would consider removing a

lump in the female axilla without first examining the breast. Similarly no surgeon should be prepared to remove a lump in the neck without first thoroughly inspecting the possible primary sites in the head and neck.

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