Oncologic Rationale For Bilateral Tonsillectomy In Head And Neck Squamous Cell Carcinoma Of Unknown Primary Source

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Abstract

OBJECTIVE: To demonstrate on oncologic basis for the recommendation to perform bilateral tonsillectomy as a routine measure in the search for a primary mucosal lesion in patients presenting with cervical nodal metastasis of squamous cell carcinoma (SCC).

STUDY DESIGN: A case series of individuals selected from a 3-year period is reported.

SETTING: Masina Hospital, Bombay -Academic medical center.

RESULTS: Each individual presented with metastatic squamous cell carcinoma in a cervical lymph node from an unknown primary source. In each case, the primary, either located contralateral to the node, or in both tonsils.

CONCLUSIONS: The rate of contralateral spread of metastatic cancer from occult tonsil lesions appears to approach 10%. For this reason, bilateral tonsillectomy is recommended as a routine step in the search for the occult primary in patients presenting with cervical metastasis of SCC and palatine tonsils intact.

The presentation of cervical metastatic head and neck squamous cell carcinoma (HNSCC) from a clinically occult primary is an unusual event, classically estimated as accounting for less than 5% of all HNSCC.[1] The actual rate of "unknown primary" cancer in any series of HNSCC depends on the definition applied when a case is assigned that designation. The recommended work-up for individuals presenting with metastatic SCC without an obvious mucosal primary site currently includes computerized radiographic evaluation and examination under anesthesia with biopsies taken from specified sites that may commonly harbor occult mucosal lesions.

There is growing support for the practice of tonsillectomy as a part of the screening directed biopsies used in the work-up of these patients. Several clinical series including our own have been published in the last decade indicating that an occult primary mucosal lesion can be identified in a tonsillectomy specimen in upwards of 30% of cases.[2,3,4,5,6] Our rationale for bilateral tonsillectomy was to create a symmetric faucial arch to avoid confusion during the clinical post treatment surveillance for recurrence and second primary cancer and to capture the rare case of bilateral disease. Subsequently, we have identified 3 individuals who present with unilateral metastatic SCC in a cervical node and were found to have a primary lesion only in the contralateral tonsil. Finally, there were 2 individuals with bilateral nodal metastases & found to have an invasive carcinoma in one tonsil and an in situ lesion in the other. These cases prompted a renewed evaluation and repeated emphasis of the oncologic value of bilateral tonsillectomy.

METHODS

The tumor data bases of the Department of Otolaryngology – Head and Neck Surgery, Masina Hospital was searched for all cases of metastatic cervical SCC requiring directed biopsy including tonsillectomy from 1998 through 2002. Those cases in which a primary lesion was identified in the contralateral tonsil were selected for detailed review.

RESULT

A total of 25 cases meeting the search criteria were identified. Twenty of these individuals had no primary source identified or had a tongue base primary lesion discovered. Five had a small cancer in the palatine tonsil. Of these 5, 3 were identified with cancer contralateral to the metastatic lymph node, and 2 had bilateral tonsillar primary lesions.

CASE REPORT

1. MA is a 55-years-old male who presented with a right-sided level-II cervical node containing metastatic SCC. Clinical examination and CT revealed no obvious primary mucosal lesion. At excisional biopsy and biopsies of the pyriform sinus and base of tongue: all results were negative for tumor. On referral to our clinic, bilateral tonsillectomies were performed in conjunction with panendoscopy. Both tonsil specimens contained small foci of SCC. The patient went on to have a right modified radical neck dissection and postoperative radiation therapy encompassing all Waldeyer's ring and the right neck.

2. HM is a 70-year-old male who presented with a left sided level II-III cervical lymph node containing metastatic SCC. Bilateral tonsillectomy was performed in conjunction with a panendoscopy and directed biopsies. The right tonsil was found to contain a small focus of squamous cell carcinoma. The patient went on to receive radiation therapy to the left neck.

3. HA is a 61-year-old male who presented with a large right-sided level II lymph node with extranodal extension of SCC. At the time of panendoscopy, he was found to have a slightly firm left tonsil on palpation. Excision of both tonsils was performed and the initial frozen section confirmed SCC in the left tonsil. The patient went on to receive radiation therapy to the oropharynx and both necks after a right radical neck dissection.

4. MH is a 71-year-old female with bilateral neck masses were found to contain SCC by fine needle aspiration biopsy. Clinical examination revealed no obvious primary source, and so the patient underwent examination under anesthesia including bilateral tonsillectomy. The left tonsil was found to harbor a T1 primary lesion, whereas the right tonsil contained carcinoma in situ. She went on to have bilateral modified radical neck dissections, followed by postoperative radiation therapy to both necks and Waldeyer's ring.

DISCUSSION

The 4 cases presenting with cervical nodal metastasis contralateral to a minute tonsil primary lesion represent approximately 10% of the 41 individuals with HSNCC without clinically obvious primary lesion at our institution over the 3-year period. In case 1, the metastasis most likely spread from the ipsilatral tonsil, however, a unilateral tonsillectomy would have missed the second primary lesion in the opposite tonsil. Cases 2 and 3 both harbored primary lesions in the tonsil opposite the presenting neck node. The metastases in cases 4 most likely both emanated from the small invasive cancer. If that is true, this tonsil cancer spread bilaterally. Once again, a unilateral tonsillectomy would have left behind a lesion with high malignant potential in the contralateral tonsil.

Lindberg's[7] classic article tabulating the incidence of nodal metastasis at various levels of the neck in patients with tonsil cancer indicates an approximate rate of contralateral nodal spread from a tonsil primary of 10%. That figure, however, is derived from cases of clinically obvious primary cancer. The phenomenon of contralateral cervical nodal metastasis as the only presenting sign of head and neck SCC would seem to be a much more unlikely event. Tonsil tumors typically spread to the subdigastric node (level II), but may also involve mid and low jugular nodes.[8] Cystic neck masses are also characteristic of metastases from tonsillar HNSCC.

The identification of a primary mucosal lesion in the patient who present with a cervical nodal metastasis has several clinical benefits. First, it permits the complete surgical excision of the primary cancer. Wide local excision with neck dissection may alone be curative in some cases without the need for radiation therapy. In the setting of more aggressive disease for which radiation is indicated, the identification of a primary site can influence treatment delivery and may preclude the need for wide filed coverage of Waldeyer's ring, or the larynx.[5] If the contralateral parotid gland and nasopharnx can be spared, severe xerostomia and related delayed complications may be reduced. However, this would clearly not be desirable for a patient who has metastatic spread from a contralateral primary site in the

tonsil. Thus, the certain identification of primary lesion helps to accurately direct the focus of radiations therapy. Finally, the identification a primary lesion assists the oncologist in postreatment surveillance for recurrent disease by focusing attention to the known primary site. For all of these reasons it is quite desirable that the primary site be identified.

Bilateral tonsillectomy adds little by way of morbidity to a unilateral excision. If it reveals the primary site in even 10% of cases, bilateral tonsillectomy would be a highly useful measure. Based on our experience, it is advised that every patient who presents with cervical metastasis of head and neck SCC without obvious primary mucosal disease and in whom the palatine tonsils are present undergo a bilateral tonsillectomy.

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