Pearls and Pitfalls in Head and Neck Surgery

Practical Tips to Minimize Complications

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2.4 Selective Neck Dissection in the Treatment of the N+ Neck in Cancers of the Oral Cavity

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**Earls**
- Patients with cancer of the oral cavity (COC) rarely have isolated lymph node metastasis (LNM) in levels IV or V.
- A selective neck dissection (SND) is an appropriate operation for the management of selected patients with an N+ neck.
- Postoperative radiation (PORDT) is usually indicated with an SND in such cases.

**Pitfall**
- Lack of appropriate informed consent may hinder the surgeon’s ability to extend the operation when necessary to remove all the disease encountered in the neck.

**Introduction**
An SND consists of the en bloc removal of the lymph node groups that are most likely to harbor metastases depending upon the location of the primary tumor. The goal of such an operation is to remove the nodes at risk while preserving function and minimizing morbidity. A selective dissection of the nodes of levels I, II, and III/IV (supraomohyoid neck dissection) is currently the preferred operation for the initial management of the neck in patients with COC who have no clinical evidence of LNM, but in whom the risk of subclinical metastases is reasonably high. SNDs are being used with increasing frequency in selected N+ patients, either alone or in combination with PORDT [1–10].

We review our experience and the recent literature to delineate the role of SND in the management of the N+ neck in patients with cancers of the oral cavity.

**Practical Tips**
1. A clinically ‘positive’ node does not always contain metastatic tumor. In a cohort of 164 patients with COC and clinically N1 neck disease involving levels I or II, Kowalski and Carvalho [5] found that these nodes were histopathologically negative (pN0) in 57.4% of the cases.
2. An SND in an N+ case should include at least levels I, II, and III. The overall prevalence of metastases in level IV in clinically N+ cases is about 10% [11]. However, in a recent study by Lodder et al. [12], pathologically positive nodes in level IV were found in only 2% of patients staged N0 or N1 and in 20% of cases staged as N2, suggesting that it may be a safer practice to include level IV whenever an SND is done in patients with COC with a N+ neck and in particular in the presence of N2 neck disease. Extending the dissection does carry a higher risk of development of a chyle fistula, demonstrated in the report from de Gier et al. [13] with an incidence of 0/60 SND, 3/104 modified radical neck dissections, and 6/85 radical neck dissections. This risk should be included in the informed consent discussion.
3. It is now clear that the prevalence of LNM in level V is so low (0.5% in cN0 and 3% in cN+) that
dissection of this region of the neck is rarely necessary [11].

4 PORDT is beneficial in terms of locoregional control of tumor in pN+ patients, particularly in cases with adverse prognostic factors such as multiple metastatic lymph nodes or extracapsular spread [5]. Furthermore, when SND is used in combination with PORDT, survival and recurrence results are comparable to those obtained with comprehensive neck dissections [2].

Results
We analyzed our results in a cohort of 22 consecutive patients with COC who had limited pN+ (13 pN1, 1 pN2a, and 8 pN2) confined to levels I and II, and underwent an SND. The primary tumor was in the oral tongue in 7 patients, the lower lip in 6, the floor of the mouth in 4, the alveolar ridge in 2, the retromolar trigone in 2, and the buccal mucosa in 1 patient. In the majority of patients (72.7%) the dissection included levels I–III (11/50%) or levels I–IV (5/22.7%). Six patients had received radiation to the neck previously and 8 patients received PORDT. With a mean follow-up of 28 months, a recurrence in the neck occurred in 3 patients (13.6%), all of whom had received PORDT. In a previous review we encountered a similar neck recurrence rate of 12.5% in 53 patients with pathological N+ disease undergoing SND and radiotherapy. Ambrosch et al. [1] reported a recurrence in the dissected neck in 6.6% of patients with pN+ necks. The same group reported their results with therapeutic SND. The 3-year regional recurrence rate was 4.9% among pN1 cases and 12.1% among pN2 cases [9]. In a recent study of 156 patients with clinically N+ neck, the regional control rate was 96% for the 69 patients who underwent SND (the majority of whom received PORDT) and 86% for those undergoing comprehensive neck dissection [14]. Others have reported similar results [15]. Not surprisingly, 3- and 5-year survival rates have been reported to be significantly better in patients with N1 + N2a disease and in patients without extracapsular spread of tumor [16].

Conclusion
This review and other investigations reported in the literature suggest that SND has a role in the management of patients with COC who have clinically positive LNM in level I or II, particularly when appropriately combined with PORDT.

References