Thyroid cancer and Delphian node

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The manuscript published in this volume of the *European Archives of Otolaryngology* discusses the incidence and impact of pre-laryngeal nodal metastasis in thyroid cancer [1]. The authors have used the title pre-laryngeal synonymous to Delphian nodes. The subject of Delphian node metastasis in thyroid cancer is well described for a number of years however interestingly there is very little original data published on the incidence of Delphian node metastasis in thyroid cancer except in the recent literature. The Australian group (Isaacs et al. [2, 3]) published their experience of large number of patients in whom Delphian nodes were removed and the incidence of metastasis was noted to be approximately 21 %. Our group at Memorial Sloan-Kettering Cancer Center looked at more than 100 patients with incidence of metastatic disease to be 25 % [4]. The authors in the present manuscript have reviewed their prospective experience of 67 patients undergoing pre-laryngeal (Delphian node biopsy) with a metastatic incidence of 19.4 %. The authors have done a good job on correlating the incidence of metastatic disease to the high-risk thyroid cancer features such as size of tumor, extra-thyroidal extension and isthmus involvement. These prognostic factors are extremely well defined both in terms of overall prognosis in patients with thyroid cancer and the incidence of nodal metastasis, be that to the Delphian node or the paratracheal or lateral jugular nodes.

The authors have clearly reported higher incidence of paratracheal nodal metastasis in patients with positive Delphian node. Some of us who routinely look for the Delphian node are amazed that the node is generally

hidden under the fascia covering the crico-thyroid muscle and extending between the cricoid and thyroid cartilages. Unless one opens this fascia, the node may not be apparent. Occasionally, the node may be misrecognized as a pyramidal lobe of thyroid. It is important to explore this area. There is always a small vein crossing the cricoid cartilage which needs to be carefully secured to avoid intraoperative bleeding or postoperative development of hematoma. Clearly, the authors have added their own series to the recent few publications with high incidence of Delphian node positivity. The more you look for the Delphian node, the more one is likely to find the node and approximately 20–25 % of the patients will have positive Delphian nodes. Clearly, the patients with positive Delphian node are more likely to have other central compartment positive nodes however it is quite clear that this nodal metastasis probably does not have a major impact on the overall prognosis in patients with well-differentiated thyroid cancer. Its impact in patients with medullary thyroid cancer remains unclear as the experience is quite minimal in medullary thyroid cancer, however, we have noted some of the recurrences in medullary thyroid cancer especially in the Delphian area.

The recent publication from the American Thyroid Association has described the central compartment as the area extending between the hyoid to the innominate vessels and from carotid to carotid laterally [5]. Interestingly, there are hardly any lymph nodes above the superior pole of the thyroid requiring extensive dissection between the hyoid to the superior pole of the thyroid however, the Delphian node removal should be a part of the proper central compartment clearance. We have used frozen section generously to evaluate the Delphian node. It is unlikely the positive frozen section would change the surgical procedure however if the Delphian node is positive, we are more

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particular in exploring the tracheo-esophageal area for proper clearance of the paratracheal lymph nodes at levels VI and VII if suspicious. Even though the series published by these authors is relatively small, it does convey the message about pre-laryngeal (Delphian) nodal importance in patients with thyroid cancer. In our practice, we send the Delphian node as a separate specimen to the pathology for definitive evaluation. We have also noted that certain locations of the primary tumor probably have a higher incidence of Delphian node metastasis such as upper pole and isthmic tumor. In the isthmic tumor, one needs to be extremely careful in dissecting the isthmic tumor off the cricoid cartilage and the trachea for satisfactory oncologic margin and also to look for the pre-tracheal lymph nodes below the isthmus and Delphian node above the isthmus. In patients with larger primary tumors and the superior pole tumors, also there is a high incidence of Delphian node positivity.

The authors have reported prophylactic bilateral central compartment dissection. This continues to be a controversial subject especially bilateral dissection which clearly has higher incidence of complications with probably very little impact of long-term outcome.

It is interesting that imaging studies such as ultrasound or CT scan rarely delineate suspicious Delphian nodes. (I am sure as the philosophy of removal of the Delphian

node in central compartment dissection becomes more popular, we will be seeing more data on the positivity of Delphian nodes in well-differentiated thyroid cancer).

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