Compressive symptoms are common among patients with thyroid disease and represent an indication for thyroidectomy [1,2]. Symptoms of compression range from mild, presenting with throat discomfort or globus sensation, to severe, involving significant dysphagia or dyspnea [3,4]. In rare cases, tracheal or esophageal compression lead to acute airway distress and require emergent treatment including intubation or tracheostomy [4,5].

Compressive symptomatology is associated with both benign and malignant thyroid disease [6]. Patients with multinodular goiter frequently complain of dysphagia or dyspnea [7]. Marked thyroid enlargement and substernal goiter have a higher incidence of compressive symptoms [1,5,8]. Though compressive symptoms are found in malignancy of the thyroid gland, the majority of patients presenting with aerodigestive compression will have benign thyroid disease [8]. Thyroidectomy is effective in relieving compressive symptoms [8,9].

Though diffuse thyroid enlargement is associated with tracheoesophageal compression, compressive symptoms are not exclusively related to the size of the thyroid gland. In addition to direct compression from an enlarged thyroid gland, dysphagia and shortness of breath may be a manifestation of thyrotoxicosis. Hashimoto’s thyroiditis, de Quervain’s thyroiditis, and other inflammatory diseases of the thyroid (10-14). Studies indicate that inflammation of the thyroid gland is associated with compressive symptoms, however this has not been fully elucidated. This study explores the incidence of compressive symptoms undergoing hemithyroidectomy was 46.3 mL (SD = 59.4, range 0.4-308 mL) compared to 23.6 mL (SD = 39.4, range 0.6-304 mL) in asymptomatic patients. Patients with compressive symptoms who underwent total thyroidectomy had an average gland volume of 96.8 mL (SD = 100.1, range 4-479 mL), compared to patients without compressive symptoms, who had an average gland volume of 56.6 mL (SD = 62.9, range 33-314) (Chart 1). Thirty-three percent (n = 28) of total thyroidectomy patients with compressive symptoms had markedly enlarged glands, compared to 23% (n = 14) of total thyroidectomy patients without compressive symptoms. There was not a significant relationship between compressive symptoms and the presence of inflammation.

This study represents a large series of patients with compressive symptoms secondary to thyroid disease. Though compressive symptoms, such as dysphagia and dyspnea, are common in thyroid disease, few studies have focused on the incidence, associated factors, and etiology of these symptoms. Our study reveals that, although the size of the gland contributes to compression, there are other factors, including inflammatory conditions, that are associated with the development of compressive symptoms. Future prospective studies are needed to determine the causation of compressive symptoms in thyroid disease.

REFERENCES