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INTRODUCTION

Goiter is defined as a thyroid gland that is larger than the upper limit of normal size for the gland according to the patient's age and sex. The thyroid gland usually grows anteriorly in the neck, because the enlarging thyroid is not constrained by the weak anterior cervical muscles, subcutaneous tissue, or the skin. If the thyroid gland enlarges inferiorly and passes through the thoracic cavity, then it is called intrathoracic, substernal or retrosternal goiter (1). In fact, intrathoracic and nodular goiters are not different entities, but anatomical variants of each other. The reason for this variety of defining terms is the lack of a uniform definition for intrathoracic goiter (ITG), and without an exact consensus on its definition (2). In a critical analysis of previous definitions of ITG; Rios et al. concluded that most definitions could be ignored because they are not clinically relevant (3). The most common clinically accepted definition of ITG includes goiter that extends below the thoracic inlet or where more than 50% of its mass is below the sternal notch (4).

Globally, there are more than 80,000 patients undergoing surgical procedures for inflammatory, neoplastic, and endocrine abnormalities of the thyroid gland. It accounts for almost 5% of all resected mediastinal tumors and is usually found in the pretracheal space as the intratho-

racic extension of the thyroid goiter in the neck (5,6). The incidence of intrathoracic goiters varies considerably, ranging from 0.2 to 45% of all thyroidectomies, depending on the criteria used to define this type of goiter (7). The prevalence of ITG in the general population is unknown due to the lack of epidemiological studies. Because of the widespread use of imaging, more cases of ITG are expected to come to clinical attention. It is more commonly diagnosed after age 50 years and is four times more common in females (8,9).

It was first described by Haller in 1749 and was surgically removed by Klein in 1820 for the first time (10). ITG presents specific challenges in relation to preoperative evaluation and surgical management. It requires specific preoperative evaluation and surgical management, as it carries a significantly high risk during and after surgery. Classic indications for surgery include pressure and cosmetic effects, and higher than expected rates of incidental malignancy in a multinodular goitre (MNG) with retrosternal and intrathoracic extension (11).

ETIOLOGY

Causes leading to goiter are multiple: genetic, toxic (smoking), natural, iodine deficiency, hormonal or infiltrating pathology, and inflammatory disorders of the thyroid gland such as

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