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**Title:** Acute airway-threatening presentations of thyroid diseases in very old patients

**Authors:** Guimarães A, Rosete M, Simões J, Bernardo J, Mesquita C

**Affiliations:** General, Thoracic and Emergency Surgery Departments – Trauma Center, Coimbra Central and University Hospital

**Topic:** Emergencies in vulnerable patient groups

**Background:** Acute airway-threatening from thyroid diseases is not common but may occur due to giant goiters, hematomas and thyroid malignancies, among others.

**Aim:** The authors underline the need for the surgeon working in acute care setting to be familiar with thyroid surgery.

**Methods:** Three recent cases, in very old patients, of acute airway-threatening from thyroid diseases are described.

**Results:** 1) A 91-year-old male with known giant right-sided thyroid mass, with a cytologic study suggestive of follicular tumor, who had refused thyroid surgery two months earlier, was hospitalized for acute exacerbation of dyspnoea and hoarseness. Cervical mass extended from the hyoid bone to the upper mediastinum, with left shift of cervical structures. Right thyroidectomy and isthmectomy were urgently performed. 2) A 88-year-old female with a known bilateral large cervical mass was admitted due to stridor. Computed tomography revealed a large retrosternal compressive goiter with a remaining tracheal lumen 2mm. Surgical risk was significantly aggravated by a severe aortic stenosis. Since there was no place for a classic tracheostomy and endotracheal intubation could be difficult or impossible, everything was prepared in order to anesthetize the patient under ECMO, which, however, did not become necessary. With partial sternotomy, a total thyroidectomy was possible. 3) A 78-year-old female complaining of stridor and dysphagia, from a large right cervical mass, with a 4 mm tracheal lumen was admitted. A tracheostomy was performed but, due to airway obstruction not completely resolved by this procedure, a right lobectomy with isthmectomy was performed urgently. Although cytologic study was suggestive of papillary carcinoma, the degree of local infiltration, evident at the time of surgery, first drew attention to the possibility of an anaplastic thyroid cancer.

**Discussion:** Acute airway-threatening from thyroid diseases is not common. Early recognition of these conditions and urgent, partial or total thyroidectomy may be necessary to alleviate symptoms when tracheostomy is not an effective option. The surgeon working in an acute care environment should be aware of these possible scenarios and be prepared to solve them.