Giant intrathoracic goitre: a case report

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Abstract

Introduction
Goitre, an enlargement of the thyroid gland, is a common endocrine abnormality. Goitres can result from biosynthetic defects, iodine deficiency, autoimmune disease or nodular diseases. If left untreated, they can compress the trachea or oesophagus and cause clinical symptoms such as dyspnea or dysphagia. However, the protuberance of goitres is usually easily noticed, so before they grow large enough to cause symptoms, they are often treated medically or removed surgically. Intrathoracic goitres, depending on definitions, account for 0.2%-45% of all goitres and most commonly affect women in the sixth and seventh decades. Because the thoracic cavity provides some interior space, goitres located within can enlarge progressively without symptoms and grow to a considerable size. Herein, we present a case involving the removal of an 18 cm intrathoracic goitre (Figure 2).

Case report

A 68-year-old woman presented a slowly growing mediastinal mass for three years. The huge mass was surgically removed without complications, proven pathologically an intrathoracic goitre. The possible optimal surgical approach for this kind of huge mass and postoperative medical treatment were discussed.

Conclusion

Given that most intrathoracic goitres arise from and maintain some attachment to the cervical thyroid gland and most of its blood supply would originate from the neck, the optimal surgical approach should start with a cervical approach to reduce the possibility of uncontrollable bleeding.

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During the operation, a cervical approach was initially taken. The cervical part of the tumour was dissected and mobilized. We attempted to pull out the whole tumour from the cervical incision without success. Using right posterolateral thoracotomy, we mobilized the intrathoracic part of the tumour. However, due to the residual tight adhesion between tumour mass and trachea, we were still unable to pull out the whole tumour from the thoracotomy opening. Repositioning the patient into a supine position again, we then completely transected the connecting portion and separated the tumour where it had adhered at the cervical level and removed the cervical part of the tumour from the neck incision. The remaining intrathoracic part was easily removed from the thoracotomy wound. The tumour was estimated to be around $18 \times 10 \times 5$ cm in size (Figure 2). The pathology report confirmed the diagnosis of nodular goitre. The patient’s preoperative discomfort subsided and she remained stable during the following hospitalization course and the subsequent follow-up visits.

**Discussion**

In this case, although an initial CT scan had already demonstrated the typical pattern of a benign intrathoracic goitre three years prior to this case presented, the patient chose close follow-up rather than surgery. A comparison of the prior radiographs with the current radiographs (Figure 1) showed that even though the intrathoracic goitre had seemingly benign characteristics, it enlarged progressively to a size that made surgical excision much more complicated. Surgeons might persuade the hesitant patients with asymptomatic or minimally symptomatic intrathoracic goitre to receive surgery earlier in an attempt to reduce the difficulty of surgery and the possible complications. In addition, total thyroidectomy should be attempted to avoid recurrence.

**Conclusion**

Given that most intrathoracic goitres arise from and maintain some attachment to the cervical thyroid gland and most of its blood supply would originate from the neck, the optimal surgical approach should start with a cervical approach to reduce the possibility of uncontrollable bleeding. If the intrathoracic tumour is noticed to be of a substantial size preoperatively, the cervical portion should be removed first after delicate dissection, sparing the recurrent laryngeal nerve and transecting the connecting part between cervical and intrathoracic portions. The remaining portion should then be pushed as far as possible down into the thoracic cavity, where it can be removed by thoracotomy or sternotomy, depending on its position in the thoracic cavity.

**Consent**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

**References**