Thoracoscopy assisted total thyroidectomy for retrosternal goitre

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Key words: Thoracoscopy; Retrosternal goiter.

Introduction

Goitres extend retrosternally especially when the neck is short. Retrosternal extensions often can be removed via the neck. However when large, a median sternotomy is required. Mobilizing the retrosternal extension with thoracoscopy reduces the morbidity of open access.

Case report

A 68 year old male presented with difficulty in breathing while sleeping. He had no cough, haemoptysis or hoarseness of voice. He had no significant past history of respiratory or cardiovascular diseases. On examination he was well looking, not pale, had a short neck with no palpable goiter. The neck veins were distended. His respiratory and cardiovascular systems were normal on examination.

Chest X ray (Figure 1) revealed a large opacity in the right side of the chest. Contrast enhanced CT revealed a large

Figure 1. Chest radiograph revealing the mediastinal mass

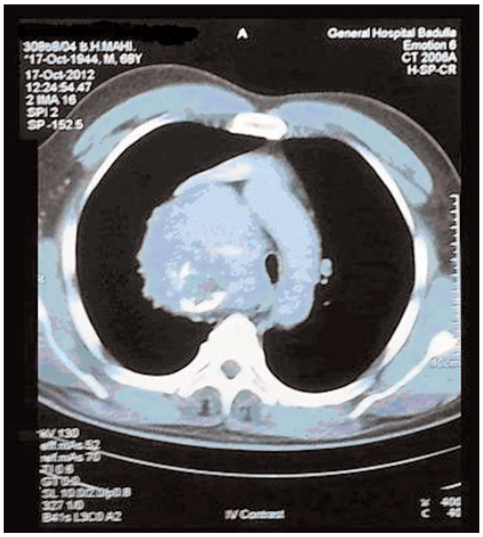

Figure 2. Computerised tomogram of the chest revealing the retorsternal goitre

retrosternal goiter, extending to lung hilum. His thyroid functions were normal.

A total thyroidectomy was performed under general anaesthesia and endotracheal intubation. Thyroid gland was exposed via a standard neck incision. As the neck was very short and the goiter extending retrotracheally, for access

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the strap muscles and sternomastoid muscles had to be divided. The left lobe was mobilized and the extension in to the chest was delivered in to the neck. But on the right side the lower limits of the intrathoracic extension could not be reached. Hence thoracoscopy was planned.

The right arm was abducted to open out the axilla. The camera port was placed in the fifth intercostal space on the posterior axillary line. Carbon dioxide insufflation was used at a pressure of 8mmHg to obtain lung collapse. Three working ports were used. The mediastinal pleura was incised along the lower border of superior vena cava. Inferiorly the incision was extended along the azygous vein. Once the plane of the goiter was defined it was mobilized using bipolar diathermy and ultrasonic dissector. The mobilized thyroid in the neck (Figure 3) was pushed in to the chest. Holding it with a grasper, lateral and inferior traction was used which facilitated completion of the dissection. The specimen was retrieved via the neck. The total operating time was three hours. The blood loss was approximately 100ml. An intercostal tube was placed. The patient was managed in the intensive care unit and was extubated on the following day. He was started on oral feeding and did not need narcotic analgesics. He did not develop hypocalcaemia and the intercostal tube was removed on the fourth day and discharged on the sixth day. He was started on thyroxine replacement.

Figure 3. Operative specimen showing the retrosternal extension of the goitre

Discussion

About 10% of multinodular goiters will have retrosternal extension. Compressive or obstructive symptoms are commoner with retrotracheal or retrosternal extensions. Majority of retrosternal extensions can be dealt with a neck incision. A mediastinal split is rarely required. (1,2,3,4) A sternotomy adds a substantial morbidity. Post operative pain, ventilatory inadequacies and chest infections are higher. Wound infection, especially if associated with dehiscence, is disastrous. The literature on thoracoscopic excision of retrosternal thyroidectomy is minimal. The case presented illustrates that it can be done safely, with an insignificant blood loss and acceptable operating time. The post operative morbidity will be substantially less than with a median sternotomy.

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