

## Asphyxia Following Complete Thyroidectomy in a Patient with Relapsed Grave's Disease

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### Abstract

A rare complication of post-thyroidectomy asphyxia developed in a patient with relapsed Grave's disease. Causes of the asphyxia were preoperative tracheal narrowing, previous thyroidectomy related diffuse oozing, and long-term use of Methimazole resulting in thrombocytopenia. The patient was successfully resuscitated by removal of neck stitches and endotracheal intubation.

The incidence of bleeding after thyroid surgery is low (1.48%). Some risk factors including grave's disease, bilateral operation, and previous thyroid surgery etc. were identified in a systemic review [1]. Delayed oozing is potentially life-threatening. We describe a rare complication of asphyxia following complete thyroidectomy in a patient with relapsed Grave's disease.

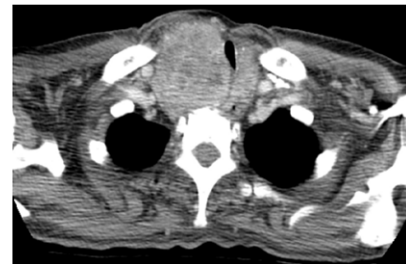
**Keywords:** Grave's disease; Anti-thyroid drug related thrombocytopenia; Post-thyroidectomy

### Case Presentation

A 55 year-old lady had undergone bilateral subtotal thyroidectomy for Grave's disease 26 years ago. At that time, 35 gm of right sided thyroid gland and 30 gm of left thyroid gland were removed. Relapse of Grave's disease was noted 13 years ago. In the relapsed period, she was initially treated using Thiouracil. In recent 3 years, the medication of Thiouracil was changed to the Methimazole. The computed tomography revealed severe tracheal compression by the growing thyroid gland (Figures 1 and 2), and laboratory tests showed thrombocytopenia and anemia. To solve the problem of airway compression, she was referred for complete thyroidectomy. Her platelets count return to normal level after transfusion and discontinuing Methimazole 3 weeks. At complete thyroidectomy, severe adhesion resulted in blood loss of 1900 mL. A total of 109 gm of thyroid tissue was removed (Figure 3). When the patient was sent from recovery room to the ward, she suffered from respiratory distress and then lost consciousness associated with cyanosis. In the first aid, the neck sutures were removed in the ward, and performed endo-tracheal intubation and cardiopulmonary



**Figure 1:** Sagittal view of computed tomography revealed huge goiter with tracheal compression.



**Figure 2:** Axial view of computed tomography revealed huge goiter with tracheal compression.



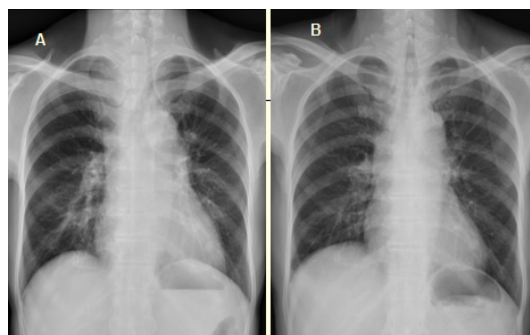
**Figure 3:** The specimens of complete thyroidectomy.

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**Figure 4:** The trachea was shift to left side before (A), and was in the central location after complete thyroidectomy (B).

resuscitation. She was sent back to the operating room for control oozing using tissue glue. Finally, the patient was sent to intensive care unit on ventilator support. Her condition got stable 5 days later. Comparing to the previous chest film, the trachea was centrally located (Figure 4). She was discharged uneventfully on postoperative day 18.

## Conclusion

Post-thyroidectomy complications include bleeding, recurrent laryngeal nerve injury, hypoparathyroidism, and thyrotoxic storm. Post-thyroidectomy bleedings have been well documented [1-4]. Many factors including Grave's disease, previous thyroidectomy,

and thrombocytopenia are associated with neck hematoma after thyroidectomy [4]. Antithyroid drug-induced hematopoietic damage has been documented [5]. In the present case, she had many factors of potential post-thyroidectomy bleeding, including anti-thyroid drug related thrombocytopenia, relapsed Grave's disease, and previous thyroidectomy. Tracheal narrowing associated with postoperative oozing easily developed asphyxia. Adigbli etc. reported that an emergency cricothyroidotomy had been performed in a case of post-thyroidectomy asphyxia [6]. In our patient who developed asphyxia was successfully resuscitated by removal of neck stitches and endotracheal intubation.

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