

Transient Bilateral Abductor Palsy Following Thyroid Isthmectomy: A Case Report

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ABSTRACT. A case of transient bilateral abductor palsy following thyroid isthmectomy is presented. The possible causes of recurrent laryngeal nerve injury are discussed. The importance of careful surgical technique is emphasized.

Keywords: Transient, Bilateral, Abductor, Palsy.

Introduction

Postoperative vocal cord palsy may be disastrous, particularly if bilateral. This phenomenon may occur following neck surgery or, as reported by many, during other types of operations^[1,2]. It is commonly due to recurrent laryngeal nerve injury, but sometimes the cause is not readily identified.

The case presented here is yet another instance of unexplained vocal cord paresis occurring 24 hours after simple thyroid isthmectomy.

Case Report

A 60-year-old Tchadian woman presented to the surgical clinic on 2 June 1992 complaining of a cervical swelling gradually increasing in size over six years. She had no

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symptoms of hypo- or hyperthyroidism and denied any previous history of neck trauma, dysphagia, dyspnoea, or voice changes and gave no family history of neck swelling. She was a non-smoker, non-alcoholic, and was not known to be diabetic. However, she was hypertensive and was on Nifedipine.

On examination she looked healthy and was neither jaundiced nor anaemic. Her blood pressure was 150/90 mmHg with a regular pulse of 90 per minute. Neck examination revealed enlargement of the thyroid isthmus without retrosternal extension and no cervical lymphadenopathy. The rest of the examination was unremarkable. Her complete blood, biochemistry, thyroid function tests, ECG, and chest x-ray were all within normal limits. Serum thyroid auto antibodies were absent. Thyroid ultrasound showed enlargement of the isthmus. A cold nodule in the isthmus was demonstrated on ⁹⁹Tm^c Pertechnetate thyroid scintigraphy. Fine needle aspiration failed to show malignant cells. Indirect laryngoscopy showed normally mobile vocal cords. On 20 July 1992, the patient was operated on. Endotracheal intubation was not difficult. The whole thyroid isthmus was found grossly enlarged (about 10 cm in diameter). The nodule was solid with cystic areas. Both lateral lobes of the thyroid were normal. Isthmectomy was carried out using sharp dissection and haemostasis maintained with monopolar diathermy and ties. The paratracheal space was drained with a haemovac drain. At the time of extubation, the vocal cords were fully mobile. Twenty-four hours post-operatively, she developed stridor. There was oedema of the upper flap and very little collection in the suprasternal notch and minimal drainage. The patient was transferred to I.C.U. where she was given oxygen and I.V. steroids. Repeated arterial blood gas analyses were normal and the patient was very closely monitored. Indirect laryngoscopy was done on the following day and it showed complete bilateral abductor vocal cords palsy. The postoperative serum calcium was normal. The drain was removed on 22 July 1992 (2nd postoperative day). The patient improved markedly over the next few days. On 27 July 1992, fibre optic laryngoscopy demonstrated completely mobile vocal cords. The patient was discharged from the hospital on 27 July 1992. Histopathology of the thyroid specimen revealed nodular colloid goitre with no evidence of malignancy.

Discussion

Complications following thyroid surgery are not uncommon but when they occur, they can have severe implications for the patient^[1]. Unilateral or bilateral recurrent laryngeal nerve injury is the most common complication^[2,3]. The rate of unilateral recurrent laryngeal nerve palsy after thyroid gland operations ranges between 0.3% and 13.2%. However, in experienced hands it becomes low and ranges between 0.3% and 2.0%^[1]. This rate will increase following secondary operations, cancer surgery, and re-operations for postoperative bleeding. There are several reports of vocal cord paralysis unrelated to neck surgery. Most of these cases have been ascribed to endotracheal intubation. Holley and Gildea^[4] showed bilateral vocal cord immobility after unilateral thyroid resection. Faaborg-Anderson^[5] analyzed 880 cases of recurrent laryngeal nerve paralysis and found no obvious cause in about 10% of them. None of these pa-

tients had been subjected to neck explorations. Others have also presented similar cases of unknown aetiology. Vocal cord paralysis after endotracheal intubation, irrespective of the type of surgery, may be due to pressure of the endotracheal tube-cuff against the larynx. This causal effect is further aggravated by surgical manipulations. Furthermore, when the neck is extended during neck surgery, the mobility of the larynx is decreased and the cuff may press firmly against the lateral laryngeal wall, damaging the nerve. Other contributing factors are hyper-extension of the neck or damage to the crico-arytenoid joint. Karavias *et al*^[6] described two cases with transient paresis of the recurrent laryngeal nerve contralateral to hemithyroidectomy.

In conclusion, unilateral or bilateral recurrent laryngeal nerve paresis during neck surgery may be caused by factors other than direct injury to the nerve itself. We believe that the bilateral abductor paralysis in our case was due to excessive manipulation of the isthmus to facilitate dissection and possibly oedema pressure secondary to diathermy. Direct injury to the recurrent laryngeal nerve is very unlikely because both lateral thyroid lobes were not disturbed and the recovery of the nerve palsy was rapid. Therefore, the importance of careful use of diathermy and the gentle handling of thyroid swellings cannot be over emphasized.

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