DOI: 10.14260/jemds/2015/788

REVIEW ARTICLE

POST TOTAL THYROIDECTOMY RECOVERY OF UNILATERAL VOCAL CORD PALSY IN MNG WITH SECONDARY HYPERTHYROIDISM: REVIEW OF LITERATURE

Vergis Paul[1], Jomine Jose[2], Danny Joy[3], Donna Baby[4], Aseen Kabeer[5]

HOW TO CITE THIS ARTICLE:
Vergis Paul, Jomine Jose, Danny Joy, Donna Baby, Aseen Kabeer. "Post Total Thyroidectomy Recovery of Unilateral Vocal Cord Palsy in MNG with Secondary Hyperthyroidism: Review of Literature". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 31, April 16; Page: 5394-5396,
DOI: 10.14260/jemds/2015/788

INTRODUCTION: The association between a pre-operative recurrent laryngeal nerve (RLN) palsy and thyroid disease is usually suggestive of locally advanced malignant thyroid disease by invasion of the nerve. However, the risk of benign thyroid disease causing paralysis to the nerve is extremely rare and has been seldom reported. The vocal cord palsy in these cases has been observed to be mostly reversible. Therefore, vocal cord paralysis does not relieve the surgeon of his obligation to identify and preserve the recurrent laryngeal nerves, since the cause of the paralysis may be a benign disease, with a fair chance of functional recovery after surgery. We report a case of post-operative complete recovery of unilateral recurrent laryngeal nerve palsy secondary to a multinodular goiter with secondary hyperthyroidism along with the review of literature.

CASE PRESENTATION: 55 year old lady presented with a neck swelling of 37 years duration gradually increasing in size. She complained of orthopnoea and change in voice with snoring in supine and left lateral position. There is history of heat intolerance and palpitation. There are no complaints of pain or rapid increase in size, no history of weight loss, weight gain, tremors or difficulty in deglutition. Bowel habits and appetite were normal. At presentation she was hyperthyroid (TSH <0.015). She was started on neomercazole and the dose was progressively titrated up till the patient was clinically and biochemically euthyroid. It was continued for 6 months. Lugol's iodine was started 10 days prior to surgery. Pre-operatively clinical examination revealed a thyroid swelling 16x15cm which was firm, non-tender with multiple nodules palpable. Retrosternal extension was evident. There was no cervical lymph node enlargement and no signs of toxicity. USG revealed diffuse thyromegaly with coarse echotexture and multiple heterogeneous lesions. Chest X-ray showed tracheal deviation to the right. Fiber-optic laryngoscopy confirmed a left vocal cord palsy. After taking informed consent, patient was taken up for total thyroidectomy. Trachea was foundgrossly displaced to right side. Superior pedicle, middle thyroid vein and inferior pedicle sequentially ligated and divided on both sides. RLN and parathyroid glands were carefully identified and preserved on both sides. Post-operative hospital stay and recovery was uneventful. Patient was relieved of symptoms of orthopnoea. Follow-up flexible optic laryngoscopy on post-operative day 19 showed bilaterally mobile vocal cords.

DOI: 10.14260/jemds/2015/788

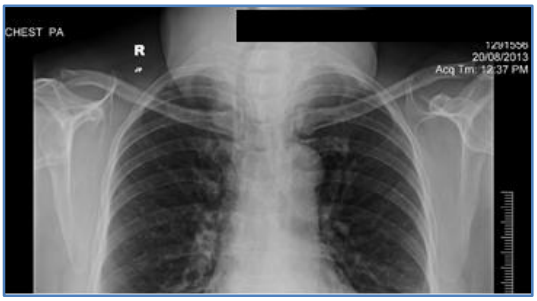

Figure 1

HISTOPATHOLOGY: Sections from thyroid showed multiple nodules separated by fibrous septae. Nodules are made up of follicles of varying size lined by cuboidal cells and filled with eosinophilic colloid. Areas of hemorrhage, hemosiderin, cholesterol clefts and fibrosis were present. Findings are diagnostic of multinodular goiter.

DISCUSSION: Goitre associated with vocal cord paralysis has classically been said to indicate thyroid gland malignancy[1] until proven otherwise. In overall series of recurrent laryngeal nerve palsies, malignant disease is responsible for 17% to 38% of cases, one-half of these being caused by carcinoma of the lung.[2-6] Between 5% and 10% of malignancies responsible for RLN palsy are thyroid in origin.[4,6] The incidence of recurrent laryngeal nerve palsy associated with benign thyroid disease in a study done by Holl Allen was 8 cases occurring in a series of 1200 consecutive patients with thyroid disease undergoing thyroidectomy[7] and it was 0.7 % in a study done by R. G. Rueger.[8]

Titche's series of 134 cases of RLN palsy contained only one associated with benign thyroid enlargement.[5] Holl-Allen[6] reported a preoperative incidence of vocal cord palsy accompanying benign thyroid disease of 0.69% (eight out of 1156 patients). The nerve recovered after operation in three patients.

Mechanisms suggested for the production of vocal cord palsy include compression of the RLN and/or its blood supply between the goiter and cervical spine or trachea, stretching of the nerve, perinodular inflammation producing minute artery thrombosis and fibrosis involving the nerve, or direct involvement in thyroiditis.[7,8] Gani and Morrison[9] suggested expansion of a cyst may involve the nerve in a pretracheal compartment syndrome. Release of tension at operation with restoration of nerve blood supply was seen as the reason for immediate postoperative return of cord movement at extubation.

Looking into these studies, the occurrence of preoperative vocal cord palsy in a benign disease of thyroid with secondary hyperthyroidism is a rare finding. Our patient had unilateral vocal cord palsy preoperatively, which recovered following surgery and the recovery from paresis was documented postoperatively. This points out the importance in identifying recurrent laryngeal nerve during surgery and preserving it.

CONCLUSION: Routine preoperative laryngoscopy to detect vocal cord paresis is advocated. Such a finding with a goiter does not necessarily indicate malignancy.

The recurrent laryngeal nerve should be identified at surgery and preserved even in the setting of pre-operative vocal cord paralysis.

DOI: 10.14260/jemds/2015/788

REFERENCES:

1. Cheesman AD, Holden HB, Richards. The Larynx. In: Mann CV, Russell RCG (eds.) Bailey and Love's short practice of surgery. 16th ed. London: Chapman and Hall Medical; 1992. p714
2. Parnell F, Brandenburg J. VOCAL CORD PARALYSIS. A REVIEW OF 100 CASES. The Laryngoscope. 1970; 80(7): 1036-1045.
3. Stenborg R. Cases of Recurrent Nerve Paralysis in Cothenburg from 1968–71. Acta Oto-laryngologica. 1973; 75(2-6): 364-365.
4. Recurrent nerve compression. Acta Otorhinolaryngol Belg. 1970; 24(4): 520-54.
5. Titche L. Causes of Recurrent Laryngeal Nerve Paralysis. Archives of Otolaryngology - Head and Neck Surgery. 1976; 102(5): 259-261.
6. DJ W, PM S. Otolaryngology. Philadelphia: WB Saunders Company; 1991.
7. Holl-Allen R. Laryngeal Nerve Paralysis and Benign Thyroid Disease. Archives of Otolaryngology - Head and Neck Surgery. 1967; 85(3): 335-337.
8. Rueger R. Benign disease of the thyroid gland and vocal cord paralysis. The Laryngoscope. 1974; 84(6): 897-907.
9. Gani J, Morrison J. Simple thyroid cyst: cause of acute bilateral recurrent laryngeal nerve palsy. BMJ. 1987; 294(6580): 1128-1129.

AUTHORS:

1. Vergis Paul
2. Jomine Jose
3. Danny Joy
4. Donna Baby
5. Aseen Kabeer

PARTICULARS OF CONTRIBUTORS:

1. Professor, Department of General Surgery, MOSC Medical College.
2. Associate Professor, Department of General Surgery, MOSC Medical College.
3. Post Graduate Student, Department of General Surgery, MOSC Medical College.
4. Junior Resident, Department of General Surgery, MOSC Medical College.
5. Junior Resident, Department of General Surgery, MOSC Medical College.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Jomine Jose,
Associate Professor,
Department of General Surgery,
MOSC Medical College, Kolenchery-682311.
E-mail: jomine9@gmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None

Date of Submission: 23/03/2015.
Date of Peer Review: 24/03/2015.
Date of Acceptance: 07/04/2015.
Date of Publishing: 15/04/2015.