CLINICAL REPORTS

Persistent vocal cord paralysis in subacute thyroiditis

P. LANGEVITZ
M.D.

S. CABILI
M.D.

Department of Internal Medicine, Chaim Sheba Medical Center, 52621 Tel-Hashomer, Israel

Summary

We report a patient with subacute thyroiditis complicated by vocal cord paralysis; the paralysis has persisted after recovery from thyroiditis.

KEY WORDS: thyroiditis, vocal cord paralysis.

Introduction

Vocal cord paralysis can occur in malignant diseases of the thyroid with an incidence of 11.3% (Holl-Allen, 1967). It is rare (0.7%) in benign diseases of the thyroid when it is associated usually with multinodular goiters (Holl-Allen, 1967; Rueger, 1974). In a systematic review of the literature, we were unable to find documented cases of vocal cord paralysis in subacute (de Quervain's) thyroiditis. We report a patient with the simultaneous occurrence of subacute thyroiditis and vocal cord paralysis.

Case report

A 38-year-old male patient presented with fever, weakness, pain in the throat and in the anterior part of the neck. After a week he began to suffer from hoarseness. On examination, the thyroid gland was enlarged and tender. Indirect laryngoscopy revealed paralysis of the left vocal cord. Significant laboratory findings were: erythrocyte sedimentation rate (ESR) 50-80 mm/hr; white cell count 11×10^9 /litre; alkaline phosphatase 240 iu/litre (normal ≤ 100). The serum bilirubin and glutamic oxalacetic transaminase were normal. Thyroxine (T_4) was 11.5 $\mu\text{g}/\text{dl}$ (normal = 4.7-10.7 $\mu\text{g}/\text{dl}$). Radioactive iodine (^{131}I) uptake by the thyroid gland was very low (3% after 2 hr, 0.8% after 24 hr) and the thyroid gland could not be demonstrated by radioisotope scanning. The diagnosis of subacute thyroiditis was thus apparent by both clinical and laboratory findings.

The patient was initially treated with prednisone (40 mg/day), with a gradual tapering of the dose following clinical improvement over a period of 1 month. The symptoms subsided and all laboratory abnormalities (ESR, T_3 , T_4 , alkaline phosphatase)

returned to normal. A repeat radioactive iodine uptake test was performed after 1 additional month and was normal. Hoarseness and vocal cord paralysis did not improve within a follow-up period of 1 year.

Discussion

Our patient shows the simultaneous occurrence of subacute thyroiditis complicated by vocal cord paralysis, which has persisted despite full clinical and laboratory recovery of the thyroid gland.

Although this complication has been described in the course of malignant and benign diseases of the thyroid, in a systematic review of the literature we could not find any documented case of vocal cord paralysis complicating subacute thyroiditis. In a series of 1200 patients with thyroid disease, paralysis of the recurrent laryngeal nerve occurred in 11.3% of cases with malignant thyroid diseases, and in only 0.7% of benign thyroid conditions (Holl-Allen, 1967). In a series of five cases reported by Rueger (1974), and three cases reported by Worgan and Saunders (1974) of vocal cord paralysis in thyroid disease, this complication occurred mainly in adenomatous conditions. In a review of 134 cases of recurrent laryngeal nerve paralysis, only three were associated with thyroid disease (malignant tumour in two patients, and trauma in one).

In a review of 56 cases of subacute thyroiditis (Volpe and Johnston, 1957), hoarseness was mentioned as a symptom in eight patients. However, no mention is made of laryngoscopy findings, if any, and the aetiology or significance of this symptom is not clarified.

Proposed mechanisms of recurrent laryngeal nerve paralysis in benign thyroid disease have been stretching of the nerve by the swollen gland, pressure of the nerve between goitre and trachea and spread of the inflammatory process beyond the thyroid gland involving the nerve and resulting in chronic perineural fibrosis (Holl-Allen, 1967; Rueger, 1974). This last mechanism might explain the findings in our patients as well as the persistence of the paralysis

despite clinical and laboratory recovery of the basic disease process.

Another finding of interest in our case is the elevated serum alkaline phosphatase. Recently, sporadic cases of transient elevated alkaline phosphatase have been reported in patients with subacute thyroiditis (Tur-Kaspa and Naparstek, 1978—three cases; Hamilton, 1979—two cases; Perez Jimenez *et al.*, 1979—one case). The cause of this liver enzyme abnormality in subacute thyroiditis is yet unknown.

References

- HAMILTON, D.V. (1979) Thyroid disease and alkaline phosphatase. *Annals of Internal Medicine*, **90**, 440.
- HOLL-ALLEN, R.T.J. (1967) Laryngeal nerve paralysis and benign thyroid disease. *Archives of Otolaryngology*, **85**, 121.
- PEREZ-JIMENEZ, R., JIMENEZ-PEREZ, J.A., RIVERA, J. & MUNOZ, R. (1979) Thyroiditis and alkaline phosphatase. *Annals of Internal Medicine*, **91**, 500.
- RUEGER, R.G. (1974) Benign disease of the thyroid gland and vocal cord paralysis. *Laryngoscope*, **84**, 897.
- TITCHE, L. (1976) Recurrent laryngeal nerve paralysis. *Archives of Otolaryngology*, **102**, 259.
- TUR KASPA, R. & NAPARSTEK, Y. (1978) Thyroiditis and alkaline phosphatase. *Annals of Internal Medicine*, **89**, 578.
- VOLPE, R. & JOHNSTON, M.W. (1957) Subacute thyroiditis: a disease commonly mistaken for pharyngitis. *Canadian Medical Association Journal*, **77**, 297.
- WORGAN, D. & SAUNDERS, S. (1974) Recurrent laryngeal nerve paralysis and the non-malignant thyroid. *Journal of Laryngology and Otology*, **88**, 375.

(Accepted 27 January 1983)