

Subacute Thyroiditis Associated With Vocal Cord Paralysis: Report of a Case

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Malignant diseases of the thyroid gland are associated with recurrent laryngeal nerve palsy with hoarseness which contributes to a condition rarely seen in benign thyroid diseases. From 1983 through 2001, only three cases of subacute thyroiditis associated with vocal cord paralysis were reported. We hereby present a case of subacute thyroiditis associated with vocal cord paralysis. The patient is a 41-year-old female who suffered for one week from foreneck pain which radiated to the left auricular area. Under the impression of subacute thyroiditis, the patient was initially treated with prednisolone 30 mg/d. As the patient clinically improved, the dosage of prednisolone was tapered gradually over a period of 1 month. At that time, she complained of hoarseness. Flexible nasopharyngoscopy revealed paralysis of the left vocal cord and free movement of the right vocal cord. After continuous prednisolone treatment, the hoarseness subsided. Repeated flexible nasopharyngoscopy showed that both vocal cords were freely movable. (*Mid Taiwan J Med* 2002;7:261-3)

Key words

prednisolone, subacute thyroiditis, vocal cord paralysis

INTRODUCTION

It has been reported that the incidence of vocal cord paralysis in malignant diseases of the thyroid is 11.3% [1], however, this condition is rare in benign diseases of the thyroid. In a survey of 1200 thyroidectomies, Hollen-Allen [1] found that the incidence of vocal cord paralysis in benign thyroid diseases is only 0.69%. Only three cases of subacute thyroiditis complicated with vocal cord paralysis were reported from 1983 to 2001 [2-4]. We report a case of subacute thyroiditis associated with vocal cord paralysis, in which hoarseness subsided after 3 months of continuous prednisolone treatment.

CASE REPORT

A 41-year-old female suffered from foreneck pain with radiation to the left auricular area for 1 week. On examination, a tender enlargement of the left lobe of the thyroid gland was found. Laboratory data revealed an elevated erythrocyte sedimentation rate (ESR) of 57 mm/h, free thyroxine 2.45 ng/dL (normal 0.78–2.19 ng/dL), and thyroid stimulating hormone 0.003 μ U/mL (normal 0.4–4.0 μ U/mL). Thyroid sonography showed an enlarged thyroid gland with patchy hypoechoic density in the left lobe. According to the cytology of the thyroid aspiration, there had been destruction of the follicular cells by PMNs and multinucleated giant cells. A diagnosis of subacute thyroiditis was made. We treated the patient with prednisolone 30 mg/d. As she improved clinically, the dose of prednisolone was

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tapered gradually to 10 mg/d over a period of 1 month. At that time, she complained of hoarseness. Flexible nasopharyngoscopy revealed paralysis of the left vocal cord and free movement of the right vocal cord. At the same time, ESR, TSH and free thyroxine had returned to normal, but mild foreneck pain still bothered her. After continued treatment with prednisolone 10 mg/d, the hoarseness subsided after 3 months. Repeated flexible nasopharyngoscopy showed that both vocal cords were freely movable.

DISCUSSION

Volpe and Johnson found hoarseness in 8 out of 56 cases of subacute thyroiditis [5]. The reported incidence of subacute thyroiditis with hoarseness is about 7% in Taiwan [6]. However, those studies did not describe nasopharyngoscopic findings and the diagnosis of vocal cord paralysis was therefore not confirmed.

In the first case reported by Langevitz and Cabili [2], hoarseness appeared 1 week after the onset of symptoms. In the second case reported by Kallmeyer and Hackmann [3], hoarseness occurred 1 month after the initiation of therapy. In another case report, hoarseness appeared 4 months before the diagnosis of subacute thyroiditis [4]. In these three cases, the diagnosis of vocal cord paralysis was confirmed by nasopharyngoscopy. In the first two cases, subacute thyroiditis was treated with prednisolone for only 1 month, and the patients' vocal cord paralysis did not improve within a follow-up of 1 year. In our case, hoarseness and vocal

cord paralysis subsided after 3 months of prednisolone treatment.

The proposed mechanism of recurrent laryngeal nerve paralysis in benign thyroid diseases is the stretching of the nerve by the swollen gland [7]. Holl-Allen [1] suggested that in the acute phase, inflammation leads to edema or thrombosis of the nerve's vascular supply, whereas in the chronic phase, this condition may be due to perineural fibrosis. The latter mechanism may well explain the persistence of vocal cord paralysis in some patients.

In summary, hoarseness may appear before or after the diagnosis of subacute thyroiditis and vocal cord paralysis associated with subacute thyroiditis will probably be permanent. However prolonged prednisolone treatment for at least 3 months may improve its prognosis.

REFERENCES

1. Holl-Allen RT. Laryngeal nerve paralysis and benign thyroid disease. *Arch Otolaryngol* 1967;85:335-7.
2. Langevitz P, Cabili S. Persistent vocal cord paralysis in subacute thyroiditis. *Postgrad Med J* 1983;59:726-7.
3. Kallmeyer JC, Hackmann R. Vocal cord paralysis associated with subacute thyroiditis. A case report. *S Afr Med J* 1985;67:1064.
4. Collazo-Clavell ML, Gharib H, Maragos NE. Relationship between vocal cord paralysis and benign thyroid disease. *Head Neck* 1995;17:24-30.
5. Volpe R, Johnson MW. Subacute thyroiditis commonly mistaken for pharyngitis. *Can Med Assoc J* 1957;77:297-307.
6. Hwang SC, Jap TS, Ho LT, et al. Subacute thyroiditis--61 cases review. *Zhonghua Yi Xue Za Zhi (Taipei)* 1989;43:113-8.
7. Judd ES, New GB, Mann FC. Effect of trauma upon laryngeal nerves. *Ann Surg* 1918;67:257-72.

亞急性甲狀腺炎併發聲帶麻痺：一病例報告

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甲狀腺惡性腫瘤已被証實可以造成喉返神經的麻痺，而引起聲音沙啞，但在良性甲狀腺疾病卻很少見。從1983年到2001年的文獻，只有三例亞急性甲狀腺炎併發聲帶麻痺的病例被報告。本例是一個41歲的女性，她遭受脖子痛且放射到左耳處已有一星期，經診斷為亞急性甲狀腺炎。這個病人一開始接受每天prednisolone 30 毫克的治療，一個月後，當臨床症狀改善後，prednisolone 慢慢被減量。但就在此時，聲音沙啞開始出現，鼻咽鏡檢查發現左側聲帶麻痺，但右側聲帶則正常。經過持續的 prednisolone 治療後，聲音沙啞消失，再次用鼻咽鏡檢查，發現二側聲帶回復正常。（中台灣醫誌 2002;7:261-3）

關鍵詞

prednisolone，亞急性甲狀腺炎，聲帶麻痺

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