

Left Recurrent Laryngeal Nerve Palsy In Sarcoidosis: A Case Report

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Abstract: Sarcoidosis is a multisystem, chronic granulomatous inflammatory disorder of unknown aetiology. We presented such a case report of A 48 year old female with chief complaints of low grade fever, mild cough, for 15 days, hoarseness of voice, difficulty in swallowing and drooling of saliva for 2 days. This patient developed cranial neuritis with hilar and mediastinal lymphadenopathy with unilateral vocal cord palsy. Gradual clinical improvement in cranial neuritis and radiographic reduction in hilar and mediastinal lymphadenopathy with return of vocal cord motion occurred during steroid treatment. Prompt treatment with steroids recommended when diagnosis is established. On clinical evaluation, we have observed a complete reversal of the unilateral vocal cord paralysis in this case.

Keywords sarcoidosis, recurrent laryngeal nerve palsy, steroids

INTRODUCTION

Sarcoidosis is a multisystem, chronic granulomatous inflammatory disorder of unknown aetiology. Usually presents with systemic symptoms like fatigue, night sweats, and weight loss. Sarcoidosis first comes to attention when abnormalities are detected on chest radiograph during routine examination. Most of the patients generally have remission within a

decade after diagnosis. Only one third patients of the disease, develop clinically significant organ involvement [1]. Organ specific clinical features in sarcoidosis showed in Table 1. Some times rare or unusual neurological presentations occur during relapse and these are : optic chiasm involvement, aseptic meningitis, cerebritis, pseudotumour cerebri, different cranial nerve involvement, etc.

Table 1: Some rare or unusual neurological presentations occur during relapse

Organ	Clinical findings
Lungs	Dyspnea plus FEV1, FVC <70% ,Cough, Wheezing
Eyes	Anterior uveitis, posterior uveitis, optic neuritis
Skin	Lupus pernio, plaques, nodules, erythema nodosum
central nervous system	Cranial nerve palsies, interacerebral involvement
Heart	Decreased LVEF, complete heart block, ventricular fibrillation, tachycardia
Liver	Cholestatic hepatitis
muscle and joints	Granulomatous arthritis, myositis,

FEV1 denotes forced expiratory volume in 1 second, FVC forced vital capacity, LVEF left ventricular ejection fraction,

CASE SUMMARY

A 48 year old female came to outpatient department with chief complaints of low grade fever, mild cough, for 15 days, hoarseness of voice, difficulty in swallowing and drooling of saliva for 2 days. She did not give history of upper respiratory tract infection, neck surgery, rheumatoid arthritis, thyroid disease, or G.B. syndrome. Her medical history includes

hypertension and sarcoidosis. Two months back she had experienced low grade fever, weight loss, and mild cough. A diagnosis of sarcoidosis was made that was confirmed with lymph node histopathology and she responded to 2 month of treatment with oral prednisolone. She did not have history of alcohol intake and smoking.

On physical examination, she revealed a very hoarse voice and inability to swallow her secretions. She was in moderate acute distress and had a temperature of 100°F. Upper respiratory tract evaluation with fiberoptic laryngoscopy revealed left vocal cord immobility, in abducted position with no neck mass. Neurological evaluation revealed palatal and pharyngeal muscle weakness. On admission chest radiograph and computerised tomography revealed hilar and mediastinal lymphadenopathy. Magnetic resonance imaging of brain and spine were unremarkable. Barium swallow was not performed as the patient was having difficulty in swallowing. Tensilon test was negative which excluded the possibility of myasthenia gravis. Thyroid function test and anti-thyroid antibodies were negative. Culture excluded the possibility of Lyme disease and diphtheria, PPD test was negative,

angiotensin converting enzyme level 89 U/L (normal range 8-65 U/L), ESR 100, total leucocyte count 8200 /cc, haemoglobin 11.5 gm/dl and Widal test was negative. Her management included treatment broad spectrum antibiotics and intravenous methyl prednisolone (40 mg q 6 hourly). Nasogastric tube was inserted and feeding started with tube (200ml q 2 hourly). On the fourth day of hospitalisation patient improved in her voice and hoarseness, was afebrile, handling secretions, reduction in malaise and difficulty in swallowing were also exhibited. Follow up examination using fiberoptic laryngoscopy indicate slight movement of left vocal cord, it was visualised on 8th day of hospitalisation with return of oral intake. A subsequent chest radiograph showed marked reduction in hilar and mediastinal lymphadenopathy. Patient was discharged on oral steroids.



Figure 1: large sub carinal lymph node



Figure 2 : multiple large hilar lymph node

[HRCT SCAN OF THORAX REPORTED AS MULTIPLE SUPERIOR MEDIASTINAL, SUB CARINAL, SUPRACLAVICULAR LYMPHADENOPATHY MARKED WITH ARROW]

DISCUSSION

A patient presented with hilar and mediastinal lymphadenopathy and cranial polyneuritis resulting in left vocal cord paralysis in the abducted position. Appropriate administration of intravenous steroids resulted in resolution of the vocal cord paralysis.

There is possibility of direct laryngeal involvement in sarcoidosis or secondary to compression of left recurrent laryngeal nerve with noncaseating granuloma. Compression may involve nucleus ambiguus and vagus nerve to produce hoarseness of voice. Nervous system involvement occurs in 5% to 10% cases of sarcoidosis [2, 3]. The most common cranial nerve involved is the facial nerve, followed by optic, vagus and trigeminal nerves respectively [4]. With the involvement of these cranial nerves middle

aged woman most commonly presents with multiple cranial palsies with the symptoms of unilateral or bilateral facial palsy, loss of vision, ocular palsy, difficulty in swallowing, weakness of palate, hoarseness of voice, taste disturbance, sensory impairment of the face, insomnia, and paralysis of sternocleidomastoid muscle [5]. Left recurrent laryngeal nerve alone, may also involve and causes unilateral vocal cord palsy. Very few cases are reported with unilateral vocal cord palsy. 75% of the patients with sarcoidosis have been identified with aorto-pulmonary nodal enlargement [6]. Compression of recurrent laryngeal nerve is potentially, a reversible after subsiding the inflammatory and edematous changes in hilar and mediastinal lymph nodes. Delay in the treatment has been reported in failure of the vocal cord paralysis to resolve [7].

CONCLUSION

This patient developed cranial neuritis with hilar and mediastinal lymphadenopathy with unilateral vocal cord palsy. Gradual clinical improvement in cranial neuritis and radiographic reduction in hilar and mediastinal lymphadenopathy with return of vocal cord motion occurred during steroid treatment. Prompt treatment with steroids recommended when diagnosis is established. On clinical evaluation, we have observed a complete reversal of the unilateral vocal cord paralysis in this case.

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