Lesson of the Week

Tuberculous mediastinal lymphadenopathy can cause left vocal cord paralysis

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Tuberculosis mediastinal nodes are popularly supposed not to cause serious complications, although pericardial effusions, bronchial erosions and stenosis, broncho-oesophageal fistulas, and superior vena caval obstruction have all been reported as complications of infected nodes.¹ We report a case of tuberculous mediastinal lymphadenopathy in a patient who presented with left vocal cord paralysis.

Case report

A 27 year old male Kenyan Asian, who had lived in the United Kingdom for four years, presented in October 1981 with a history of hoarseness for three months. Indirect laryngoscopy showed left vocal cord paralysis and chest x ray films a right paratracheal mass. Mediastinal tomography confirmed this finding and also indicated a mass within the left hilum compressing the left main bronchus. At mediastinoscopy and bronchoscopy under general anaesthesia enlarged nodes were biopsied, and the left main bronchus was found to be almost totally occluded by a tumour like mass. Lymph node histology showed only reactive changes; bronchial biopsy specimens, however, strongly suggested caseous tuberculosis, and sputum subsequently grew *Mycobacterium tuberculosis* which was sensitive to rifampicin, isoniazid, and ethambutol.

After treatment for two months with rifampicin, isoniazid, and ethambutol fiberoptic bronchoscopy under local anaesthesia showed only a 20-30% reduction in the lumen of the left main bronchus, with 50% of normal excursion of the left vocal cord. A second fiberoptic bronchoscopy after treatment for a further seven months (with rifampicin and isoniazid) showed unimpaired movement of the left vocal cord, and the site of the previous stenosis in the left main bronchus was only just identifiable. His hoarseness had now completely recovered.

Flow volume loops were subsequently performed as a non-invasive means of detecting any bronchial stenosis as the lesions healed; these were within normal limits when first performed in May 1982 and have remained satisfactory.

Comment

Post-primary tuberculosis has long been recognised as a cause of vocal cord paralysis. The latter is seen more often by laryngologists than by chest physicians, however, and usually in relation to chronic pulmonary tuberculosis predominantly

Since vocal cord paralysis may rarely be caused by tuberculous mediastinal lymphadenopathy biopsy specimens should be cultured as well as examined histologically to ensure a correct diagnosis

affecting the upper lobe. In chronic pulmonary disease the paralysis may be caused by three possible mechanisms: (a) the nerve passing through, or adjacent to, a mass of caseating nodes²; (b) the nerve being trapped in dense fibrous pleural thickening or in the chronic fibrosing mediastinitis that may occur³; and (c) the nerve being stretched owing to retraction of the left upper lobe bronchus towards the apex.² Intrathoracic disease usually affects only the left nerve. The right nerve is, however, related to the cervical pleura and may thus be affected in apical pleural fibrosis or by cervical lymph nodes (when left and right nerves are affected with equal frequency).

Vocal cord paralysis as a complication of primary tuberculous mediastinal lymphadenopathy is very rare. In this and two other reported cases the left main bronchus was directly affected (inflammation or ulceration), suggesting that direct spread of infection from perforation of the lymph node abscess damages the nerve rather than mechanical factors alone.^{4 5} Furthermore, particular nodes of the left tracheobronchial group must be affected: the "node of the left recurrent laryngeal nerve" and the "node of the obliterated ductus arteriosus" are both intimately related to the left recurrent nerve.² In our case radiology suggested that these nodes were affected.

Our patient had tuberculous mediastinal lymphadenopathy presenting as hoarseness due to left vocal cord paralysis. In a European this presentation would suggest lymphoma or bronchial carcinoma. As Bloomberg and Dow¹ showed in their recent series, however, mediastinal lymphadenopathy is a common manifestation of tuberculosis in immigrant groups. This diagnosis and its possible complications must, therefore, be borne in mind. Biopsy specimens must be cultured as well as examined histologically, since delay in making the correct diagnosis may prevent a successful outcome from chemotherapy.

References

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