cholamine levels. The interesting point in our patient is the absence of ST-T wave changes on ECG, in spite of the clinical evidence of moderate aortic stenosis and prominent echo findings of obstructive cardiomyopathy. In conclusion, echocardiography is a more useful method than ECG and should be routinely used for diagnosis and postoperative follow-up evaluation of myocardial changes seen in patients with pheochromocytoma.

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Figure 1. Chest x-ray film, PA view (case 1), showing cardiomegaly with gross dilatation of main pulmonary artery and its major branches and virtual obliteration of its peripheral branches. Lung fields show large cystic spaces in left upper and right middle zones and areas of patchy consolidation with diffuse opacities in the remainder of both lungs. The right dome of the diaphragm is elevated.

Hoarseness of Voice in Chronic Cor Pulmonale

To the Editor:

Hoarseness due to left recurrent laryngeal nerve paralysis has been reported in pulmonary hypertension due to mitral stenosis, congenital heart diseases, and primary pulmonary hypertension. We have recently seen laryngeal paralysis in two cases of pulmonary hypertension due to diffuse parenchymal lung disease.

CASE REPORTS

Case 1

A 38-year-old Libyan woman presented with dyspnea and cough for 14 years and hoarseness for five months, which worsened in the last two months when signs of congestive heart failure appeared. She had central cyanosis, finger clubbing, and crepitations and rhonchi all over the chest. Blood pressure was 136/80 mm Hg, and there was no abnormal heart sound or murmur. Indirect laryngoscopy showed paralysis of the left vocal cord. The right vocal cord was normal and there was no ulceration or growth. There was no lesion in the neck and no cranial or peripheral nerve involvement. Electrocardiogram showed P pulmonale and right ventricular hypertrophy. Chest x-ray film (Fig 1) showed cardiomegaly with gross dilatation of the main pulmonary artery, and large cystic spaces along with areas of patchy consolidation and diffuse opacities in both lung fields. No enlargement or calcification of hilar or mediastinal lymph node was detected on plain films or tomograms. Repeated investigations for tuberculosis were negative.

Case 2

A 55-year-old Saudi Arabian woman complained of progressive exertional dyspnea and cough for 20 years and hoarseness for six years. She appeared cyanotic, and extensive coarse crepitations and a few rhonchi were present all over the chest bilaterally. Blood pressure was 130/80 mm Hg, and there was no abnormal heart sound or murmur. Jugular veins were engorged, and the liver was enlarged 5 cm and tender. Indirect laryngoscopy showed paralysis of the left vocal cord without any local lesion in the larynx. No lesion in the neck or any systemic neuropathy which could affect left recurrent laryngeal nerve was evident. Chest x-ray examination showed cardiac enlargement with gross dilatation of the main pulmonary artery. The lung fields presented the picture of interstitial fibrosis. No hilar or mediastinal lymph node enlargement was noted.

COMMENTS

Laryngeal paralysis in pulmonary hypertension is believed to result from compression of the nerve between the tense, dilated pulmonary artery and the aorta and rotation of the heart due to right ventricular hypertrophy resulting in traction on ligamentum arteriosum and the nerve. Cor pulmonale is common, but laryngeal paralysis seems to be rare in it. It may be because the nerve is not damaged by dilated pulmonary artery in all cases, but only when it is compressed against a hard structure like an atheromatous plaque in the aorta or pulmonary artery, or an enlarged or calcific lymph node, the chance occurrence of which, at a strategic location, may be infrequent. Rotation of the heart by right ventricular hypertrophy and its displacement by pulmonary fibrosis may cause traction on the nerve, but only in those cases where the traction is sufficient and in a critical direction. If pressure against a hard structure is the cause, it may be demonstrable on autopsy, but if traction has been the cause, it may be difficult to demonstrate even post mortem.

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