To the Editor:

We would like to thank Dr. RuDusky for his comments on our article (CHEST 1994; 106:1316-17). As he highlighted, our knowledge of the pathophysiology behind the ST- and T-wave shifts of repolarization remained incomplete, and probably varied depending on the pathologic state.1,2 We would agree that for many conditions catecholamine excess is a plausible model for the changes—electrocardiographic and other—noted with neurologic events, mediated by opening of receptor-operated calcium channels.3 Therefore, beta-blockade may prove beneficial as perhaps certain calcium channel blockers such as nifedipine. Both require controlled trials to confirm benefit. In addition to raising consideration for potential therapeutic efforts, the central theme of our editorial was to heighten awareness—recognition needfully precedes treatment.

William E. Strauss, MD, FCCP, Department of Cardiology, Veteran's Administration Medical Center, West Roxbury, Massachusetts

REFERENCES

Bronchogenic Carcinoma Presenting as a Pseudopregnancy

To the Editor:

I read with interest the report of a patient with bronchogenic carcinoma presenting as a pseudopregnancy, which was in the February issue (CHEST 1995; 107:567-69). We have recently reported about two women in their 40s who presented with breast engorgement, false-positive pregnancy, and ectopic gonadotropin production due to bronchogenic carcinoma.1 Pregnancy was suspected in one of the patients because of her irregular menstrual cycle. Intensive evaluation did reveal an otherwise occult bronchogenic carcinoma. Pathologic examination revealed positive immunoperoxidase stain for β-HCG. After surgical resection, β-HCG dropped to normal with apparent cure after 4 years of monitoring. These cases do emphasize the increasing prevalence of bronchogenic carcinoma in young women, the need to explain all apparently false-positive pregnancy tests, and the potential for cure based on detection which results from intensive evaluation. “Don’t ignore a positive pregnancy test.”2

Richard W. Snyder, MD, FCCP, Abington, Pennsylvania

REFERENCES
1 Snyder RW, Pickens PV, Kukora JS. Breast engorgement and false-positive pregnancy tests due to lung cancer with ectopic gonadotropin production. Am Surg 1985; 4:328-29
2 Smith DB, Rustin GJS, Bagshawe KD. Don’t ignore a positive pregnancy test. BMJ 1988; 297:1119-20

Spontaneous Mediastinal Emphysema Caused by Strained Uterance
Is it Characteristic of the Japanese?

To the Editor:

Spontaneous mediastinal emphysema is a condition where the free air that leaks out as a result of rupture of blebs located along the bronchovascular sheath collects in the mediastinum. Increased intra-alveolar pressure is important to predisposition for bleb rupture. We experienced three episodes of mediastinal emphysema caused by strained uterance, which led to increased intra-alveolar pressure by Valsalva maneuver-like action. There have been no reports showing apparent causality between strained uterance and idiopathic mediastinal emphysema. It was considered that spontaneous mediastinal emphysema caused by strained uterance might be particularly characteristic of the Japanese.

Twenty-nine patients with mediastinal emphysema were admitted to our ward between 1985 and 1993. Seven patients had underlying lung diseases (pulmonary fibrosis in three patients, pulmonary emphysema in two, pneumonia in one, radiation fibrosis, and lung cancer in one each). Severe cough caused by underlying lung diseases in four patients, use of a respirator in two patients, and a large amount of subcutaneous emphysema from a drainage hole for pneumothorax were considered to be the cause of secondary mediastinal emphysema in these patients.

Twelve patients with bronchial asthma and three patients with acute bronchitis experienced mediastinal emphysema during an cough attack. Two asthmatic patients had recurring mediastinal emphysema, and one of these patients died after another asthma attack in his home.

Seven patients had no underlying lung or other diseases, so their pneumomediastinum can be called idiopathic. These patients with idiopathic spontaneous mediastinal emphysema ranged in age from 15 to 23 years old (average age: 18.1 years old). All of them were male patients. Mediastinal emphysema occurred at rest during class work in one patient, at or after mass training involving strained uterance in three, and at or after athletic practice in three. Among these causes, mass training involving strained uterance, such as the practice of Japanese martial arts like karate and kendo was considered to be of interest and characteristic. For instance two patients (21- and 20-years old undergraduate students) were receiving mass training in xiao-lin temple boxing (shorinji kempo in Japanese) with 18 teammates on May 31, 1998. At the time of a strained uterance exercise they felt chest compression with cervical swelling, so they visited our hospital. A chest roentgenogram at the time revealed obvious mediastinal and subcutaneous emphysema. The third patient (23-year-old man) was undergoing recuit training involving strained uterance with shouting to learn sales talk on September 12, 1989. At the time he suffered pain in the anterior chest, and a diagnosis of mediastinal emphysema was made based on by physical findings and a chest roentgenogram. In these three cases, we could not find any bullous lesions, blebs, or emphysematous changes in any of the patients' chest roentgenograms or chest CTs, or any abnormal findings in lung function tests after spontaneous healing within several days.

The mechanism of mediastinal emphysema is said to proceed as follows: (1) increased intra-alveolar pressure in the blebs or alveoli existing along the bronchovascular septa; (2) rupture of these blebs or marginal alveoli; (3) air leakage into interstitium of the bronchovascular sheath; (4) air transfer proximally via the bronchovascular sheaths; and (5) collection of free air in the mediastinum. Various causes for the increase in intra-alveolar pressure have been mentioned. The most common cause is severe cough1 because of an asthma attack, whooping cough, diphtheria, influenza, or acute bronchitis. Vomiting2 after heavy drinking has been reported to be