When leukocyte counts are very high, a lapse of several minutes between measurement of PO₂ and SO₂ will result in a discrepancy between the two values, suggesting abnormal oxygen-hemoglobin dissociation as well as spurious diagnosis of hypoxemia. In patients with markedly elevated neutrophil counts, delays in analysis must be avoided. In some situations the patient should be taken to the electrodes to expedite analysis of the sample.

William W. Douglas, M.D., F.C.C.P.
Rochester, Minnesota

REFERENCES

Massive Subcutaneous Emphysema following Bronchography

To the Editor:

A case of massive subcutaneous emphysema, an unusual complication of bronchographic studies done via the nasal route, is reported. Possible causes are described.

Case Report

A 45-year-old man was admitted for bronchographic studies. The bronchographic procedure was performed after proper tests of sensitivity and premedication. The propyiodone (Dionosil) oily dye was introduced via a nasal endotracheal catheter under fluoroscopic control. A diagnosis of bronchiectasis of the right middle lobe was made.

The patient was well for 12 hours. After that, he noticed tightness of the chest and slight difficulty in deglutition. A diagnosis of subcutaneous emphysema of the neck was made. There was a gradual increase in subcutaneous emphysema. By the next morning the subcutaneous emphysema extended to the whole of the trunk, both arms, the neck, and the face (Fig 1). After intensive care, the emphysema regressed slowly; and in ten days, it had resolved completely.

Discussion

Despite the widespread use of bronchographic studies, I could not find any recorded instance of subcutaneous emphysema as a complication following use of the nasal route, although surgical emphysema of the neck due to leakage of air through the site of puncture in the cricothyroid membrane is a common complication in bronchographic studies using the cricothyroid route. 1 Won et al 2 reported a case of severe subcutaneous and mediastinal emphysema complicated by pneumothorax following transcricothyroid bronchographic studies.

Possible causes for the development of subcutaneous emphysema in our case may be (1) cough, leading to increased intra-alveolar pressure; (2) local chemical irritation due to retained dye; or (3) exaggerated mechanical obstruction of the airway due to retained dye, which led to an increase in alveolar pressure. It is difficult to say whether these three factors acted singly or in combination in the formation of subcutaneous emphysema in our case, but the route of air dissection in this case was possibly due to increased pressure leading to alveolar rupture, with air travelling to the hilum, neck, head, and wall of the chest by the interstitial route along peribronchial and visceral sheaths.

S. K. Jain, M.D., F.C.C.P., Reader and Head
Department of Tuberculosis and Respiratory Diseases
Motilal Nehru Medical College, Allahabad, India

REFERENCES

Effect of Fracture of Pacing Lead on R-Wave Sensing

To the Editor:

I would like to express my appreciation of the article entitled "Fracture of Pacing Electrode Mimicking Failure of Pulse Generator" by Salem et al (Chest 74:673-674, 1978). I note that these authors used a pacing system analyzer with a known output of voltage to evaluate the electrode; the problem may not have been as recognizable if a device (such as an external pacemaker) with an unknown output of voltage had been used.

As an engineer, I cannot resist correcting the following minor error in the discussion by Salem et al: "At the same time, the increased resistance of the electrode with an intact pathway should enhance sensing of the endocardial signal" (p 674). The statement is confusing, since a broken lead does not have an intact pathway. Actually, while a slightly greater voltage would exist at the tip of the electrode, the voltage would be noticeably reduced at the pacemaker by the resistance at the break. At the same time, it is likely that sufficient voltage would remain to properly inhibit the pacemaker.

CHEST, 76: 6, DECEMBER, 1979

COMMUNICATIONS TO THE EDITOR 709