A 62-year-old woman was admitted to the emergency unit because of a suddenly developing swelling of the neck. Three months earlier, hyperthyroidism had been diagnosed. At that time, a chest roentgenogram had been done (Fig 1). Except for changes in both apical parts of the lungs, probably due to former tuberculosis, findings were unremarkable. Treatment with radioactive iodine (7mCi $^{131}$I) was instigated four weeks later and her clinical condition improved. No other treatment was given.

At admission, she had no complaints, except that she had noted a swiftly increasing swelling of the neck. On physical examination, there was a symmetrical swelling of the neck region with congested jugular veins. No other abnormal findings could be detected. Laboratory parameters were within the normal range. The PA chest roentgenogram revealed a widening of the upper mediastinum (Fig 2). Two hours later, stridor, dyspnea and shock developed. A second chest roentgenogram disclosed progressive widening of the upper mediastinum (Fig 3). An emergency sternotomy had to be performed.

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Diagnosis: Massive mediastinal hemorrhage due to erosion of an artery of the thyroid gland

A large hematoma was evacuated from the anterior mediastinum. The source of the hemorrhage was a small artery on the inferior surface of the right thyroid lobe. The bleeding artery was ligated and the retrosternal thyroid tissue excised. Recovery was uneventful.

The presence of a superior vena cava syndrome in conjunction with a mediastinal mass is commonly thought to indicate a malignant lesion. A variety of benign and malignant processes may present as a mediastinal mass. Accurate differential diagnosis of such mass lesions requires knowledge of the normal mediastinal anatomy. One of the benign lesions is retrosternal goiter.

The majority of patients with intrathoracic goiters are asymptomatic. If clinical signs are present, they are mostly atypical and due to compression on other structures, such as superior caval vein, trachea and esophagus. Patients may have shortness of breath either during exercise or in the supine position. The abnormality is often discovered on a chest roentgenogram made for other purposes. Obstruction of the superior caval vein, however, with a benign endotracheal goiter has been documented.1

Sudden mediastinal enlargement, developing within hours, is invariably due to hemorrhage. In most cases the cause of the bleeding can be traced to an obvious particular incident or disease. Bleeding in the thyroid region after surgical treatment for hyperthyroidism is a serious and well known complication in the early postoperative phase. Spontaneous mediastinal hemorrhage has been described only once in the literature.2

Acute complications of treatment with ¹³¹I in patients with hyperthyroidism are rare and probably due to excessive focal uptake of radioiodine.3 As far as we know, no other case of serious hemorrhage, after treatment with ¹³¹I, has been described.4 Histopathologic alterations occurring in the thyroid glands after therapy with ¹³¹I have been encountered. The presence of abnormal dilated blood vessels was a striking feature.5

Although a causal relation can not be proven, the findings suggest that the mediastinal hemorrhage in this patient is related to prior treatment with ¹³¹I.

REFERENCES
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