

STRUMA LYMPHOMATOSA

Case Report

W. S. DEMPSEY, M.D., R. S. DINSMORE, M.D., and
JOHN B. HAZARD, M.D.

Departments of General Surgery and Pathology

STRUMA LYMPHOMATOSA is an uncommon lesion of the thyroid gland. Diagnosis prior to operation is comparatively rare as are complete preoperative studies. In the case of this disease reported here the diagnosis was made preoperatively and special studies were carried out.

Case Report

A slightly obese uniparous white woman, aged 58 years, was admitted to the Cleveland Clinic Hospital on January 16, 1949. Her past history did not reveal anything significant. The present illness, however, dated from 1941 at which time she had had all her teeth extracted. Shortly thereafter she began to have transient episodes of a constricting sensation in her throat accompanied by a mild dysphagia. Concomitantly she experienced aching in the low anterior cervical region with slight radiation laterally. These incidents lasted only a matter of minutes, occurred about six or eight times a year and were not accompanied by either fever or severe pain. She had gained thirty pounds in the past seven years. A thorough study of the patient had been made in 1942. At that time her thyroid was palpable but not enlarged. No history of hyperthyroidism was elicited. Esophagram, chest roentgenogram, esophagoscopy, and laryngoscopy were also normal.

At the time of examination on January 16, 1949 her temperature was 98 F. The pulse rate was 72, respirations 21, and blood pressure 150 systolic, 90 diastolic. The patient was rather short, well developed and moderately obese. The thyroid gland showed definite diffuse enlargement with slight nodularity. No tenderness was elicited. The vocal cords appeared and moved normally. Except for the enlarged thyroid the physical examination was normal.

Examination of the urine showed no abnormality. The hemoglobin was 12 Gm. and the white cell count 8100. The blood serology was negative. A fasting blood sugar was 98 mg. per cent.

A gastric analysis showed a free hydrochloric acid of 5° and a total acidity of 15°. The basal metabolic rate was minus 10 per cent. A sedimentation rate was 0.9 (normal 0.45).

A roentgenogram of the chest revealed deviation of the trachea to the left. Although a soft tissue mass could not be definitely visualized, thyroid enlargement could not be excluded. A tracer dose of 0.4 mc. I^{131} was given January 17, 1949. Two hours later a 20 per cent uptake was recorded over the thyroid area. The preoperative diagnosis was struma lymphomatosa.

A right lobectomy was performed on January 17, 1949 under local anesthesia supplemented by gas oxygen ether. The patient's convalescence was uneventful and she was discharged six days after operation.

Pathology. Grossly the specimen consisted of the greater portion of the right lobe of the thyroid which weighed 30 Gm. and measured 7 by 6 by 4 cm. The capsule was thin, smooth and glistening and there was no muscle adherent. On the posterior surface there was an elongated depression (representing the area of tracheal compression). The tissue was of firm rubbery consistency and

on section was diffusely white and yellowish-white with a slightly bulging surface and a few irregular, slightly depressed septations (fig. 1a).

Microscopically practically the entire lobe was formed by fairly dense fibrous tissue trabeculations and masses of lymphocytes and plasma cells infiltrating lobules of acidophilic thyroid follicles. The connective tissue occurred as broad trabeculations of dense character (fig. 2a) and interlobular location and as a diffuse interfollicular increase of more loosely arranged type. The lymphocytes and plasma cells densely infiltrated the interfollicular zones corresponding with the thyroid plates, the lymphocytes replacing other tissues in microscopic areas and including large and active lymph follicles (fig. 2b). Foreign body giant cells were rare. A few histiocytes existed in or near a follicle but there was no tubercle formation. There was a definite reduction in epithelial elements. The follicles were of small to medium size and formed chiefly by large acidophilic cells, 10 to 20 microns in diameter, cuboidal or polyhedral in shape, and with abundant finely granular cytoplasm. Occasional bizarre giant nuclear forms were present. Follicular lumina contained a moderate amount of pale staining colloid. There were scattered small, irregular islands of darker staining epithelial cells, 5 to 12 microns wide, polyhedral in shape which were large centrally and smaller marginally in stratified or palisade arrangement. Blending with the acidophilic thyroid tissue were irregular foci of follicles with the pale staining granular neutrophilic cuboidal epithelial cells, 3 to 7 microns in diameter, forming lumina of moderate size containing colloid. The thyroid capsule showed a patchy infiltration by lymphocytes, without increase in connective tissue; it was well demarcated from the perithyroid tissues which were of typical character and density.

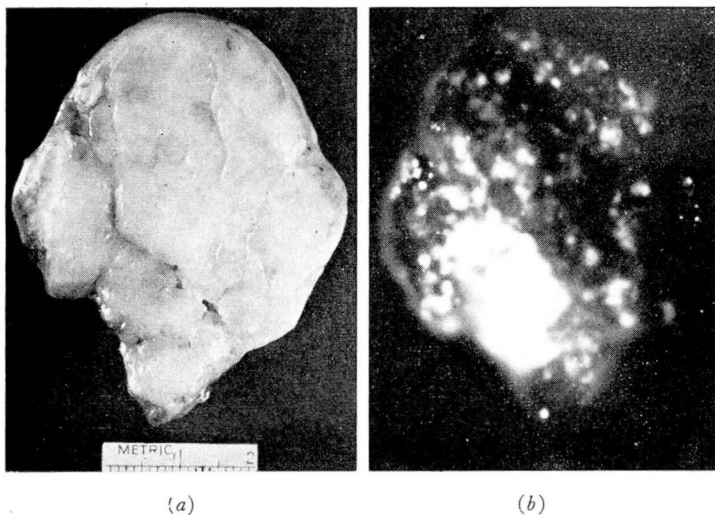
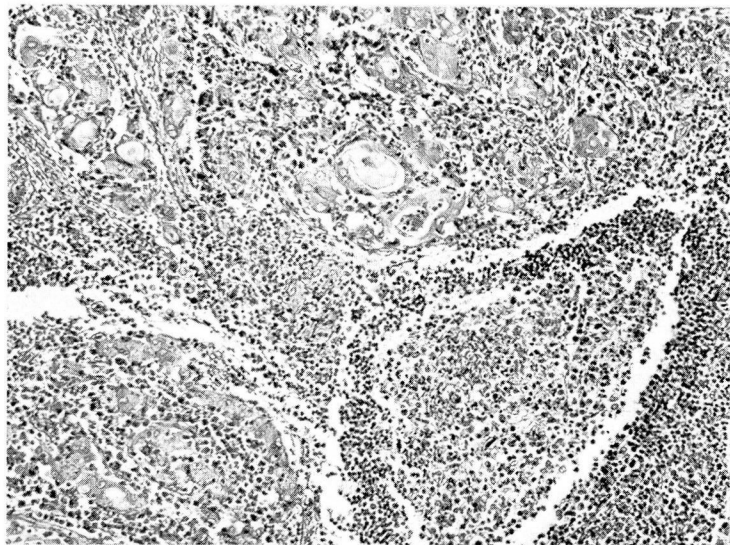
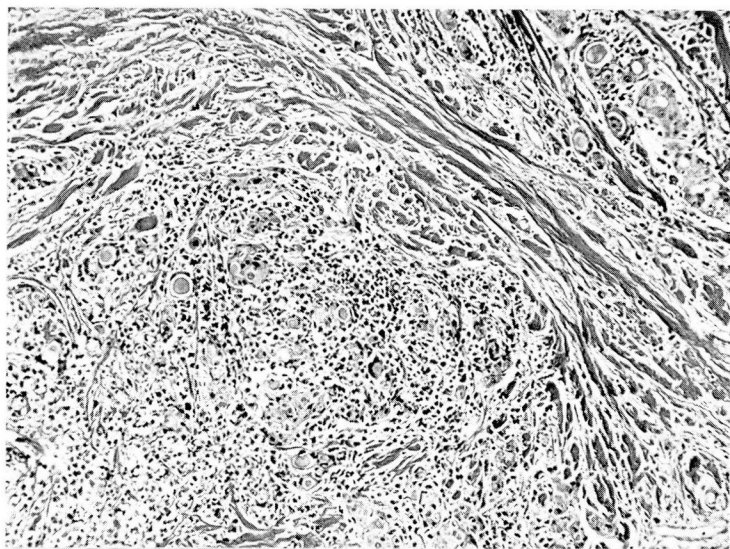


Fig. 1. (a) Gross specimen showing irregular, coarsely lobulated bulging surface; (b) gross radioautograph. Scattered small irregular light foci and the white conglomerate patch indicate zones of radioactivity.

The pathologic diagnosis was struma lymphomatosa (Hashimoto) with focal squamous metaplasia.

(a)



(b)

Fig. 2. (a) Sclerosis, surrounding and partly extending into thyroid plate; small thyroid follicles with oxyphilic epithelium and separated by cellular infiltration of plate; (b) lymph nodule formation and dense cellular infiltration (plasmacyte and lymphocyte) in thyroid plates, separating small oxyphilic follicles.

Radioautographs. A radioautograph of a thin section of the gross specimen revealed small scattered foci and one conglomerate patch of radioactivity (fig. 1b). Contact radioautographs of microscopic sections of the specimen used for the gross demonstration, revealed absence of radioactivity in the zones with oxyphilic epithelium. Scattered foci of radioactivity were found in the few zones with follicles formed by neutrophilic cuboidal epithelial cells.

Summary

The clinical history of this case is typical inasmuch as the symptoms were vague, poorly defined, and the onset insidious. The gastric analysis revealed only 5° free hydrochloric acid. Graham¹ reported an acidity or hypoacidity in 6 of 14 cases of struma lymphomatosa.

The basal metabolic rate in this patient was minus 10 per cent. In 14 cases reported by Crile² the average metabolic rate was minus 8 per cent. The sedimentation rate was 0.9 (normal 0.45). The uptake of radioactive iodine was below that of a normal thyroid gland. Because the diagnosis was confirmed after removal of the right lobe no further surgery was performed. Conservative surgery with the object of decompression only has been recommended by Crile² and by Marshall et al.³

References

1. Graham, A.: Struma lymphomatosa (Hashimoto). *Trans. Am. A. Study Goiter*, p. 222-251, 1940.
2. Crile, G., Jr.: Thyroiditis. *Ann. Surg.* **127**:640-654 (April) 1949.
3. Marshall, S. F., Meissner, W. A., and Smith, D. C.: Chronic thyroiditis. *New England J. Med.* **238**:758-766 (May 27) 1948.