compression, being superimposed on the effect of the pure chiasmal compression seen in the left eye.

In summary, we describe a further sign of chiasmal compressive disease and expand the phenomenon of bow-tie atrophy and nonglaucomatous optic disc cupping seen in conditions with retrograde degeneration of decussating axonal ganglion fibers.

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Clinical Characterization and Immunopathologic Features of Sclerosing Dacryoadenitis and Riedel Thyroiditis

Graves disease1 and, much more rarely, Hashimoto thyroiditis2 have well-established associations with proptosis. Less appreciated is that sclerosing inflammation of the lacrimal gland can be associated with Riedel struma (invasive fibrous thyroiditis that preferentially affects young women), both of which can also be components of multifocal fibrosclerosis (MFFS).3,6 To our knowledge, no studies exist to date on the comparative immunopathologic features of these 2 involved glands, including the possible presence of IgG4-positive plasmacytes that would provide a link to the newly characterized fibrosing entity of IgG4-related disease.7-10

Report of a Case. A 38-year-old woman developed a tender left upper eyelid mass (Figure 1A) without proptosis over 6 months. Computed tomographic scanning showed unilateral enlargement of the left lacrimal gland (Figure 1B). Her serum IgG4 level was 55.4 mg/dL (reference range, <140 mg/dL; to convert to grams per liter, multiply by 0.01), and antineutrophil cytoplasmic antibody testing results were negative. Riedel thyroiditis lacking palpable nodularity had been diagnosed by biopsy 10 months earlier after causing dysphagia
Workup disclosed elevated liver enzyme levels and a right upper lobe lung nodule. Biopsies of the common bile duct, ampulla of Vater, and a subpleural mass contained infiltrates of polyclonal lymphocytes, plasmacytes, and scattered eosinophils without granulomas; only the lung lesion displayed fibrosis. IgG4-
positive plasmacytes were identified in small numbers in all 3 sites. The patient was treated with steroids, levothyroxine sodium, and tamoxifen citrate with moderate improvement.

The lacrimal gland was biopsied when the patient was receiving 20 mg of prednisone daily. It manifested surviving ductules without acini in the midst of fibrosis (Figure 1D). Lymphoid follicles were focally observed in the thyroid gland biopsy (Figure 1E); fibrofasciation invaded striated muscle (Figure 1F). Longitudinal keloidal bands in the lacrimal and thyroid glands (Figure 1D and E) stained positive with periodic acid-Schiff and strikingly positive with trichrome (Figure 1D [inset] and F); in the lacrimal gland, they fused with basement membranes around ductules (Figure 1D [inset]). The infiltrates were polyclonal, composed of T cells (CD3+/200) (Figure 2A) and B cells (CD20+/200) (Figure 2B) with approximately equal \( \kappa \) and \( \lambda \) light chain expression. In the fibrotic area of both glands, IgA-positive plasmacytes were present (mean, 23/high-power field [HPF] in the lacrimal gland and 21/HPF in the thyroid gland) (Figure 2C and D). A small lobule of nonsclerosed lacrimal tissue contained more numerous interstitial IgA-positive cells. IgG4-positive plasmacytes were sparse in both the sclerosed thyroid and lacrimal glands (8/HPF each) (Figure 2E and F) but more apparent where there was follicle formation in the thyroid gland (73/HPF) (Figure 2F [inset]). (In fibrotic regions, having >30 IgG4-positive cells/HPF is considered significant.)

**Comment.** Multifocal fibrosclerosis can affect many sites: orbital fat and muscles; parotid, lacrimal, and thyroid glands; mediastinum and retroperitoneum; and bile duct and pancreas.8-10 Riedel invasive thyroiditis creates a hard mass, invades the gland’s capsule,11 and is associated with MFSS in 34% of cases.12 Of all cases of MFSS, however, Riedel thyroiditis is an element of the syndrome in a much smaller subset of patients.5,13 In our patient and others described with Riedel thyroiditis,3,14 the orbital disease preferentially occurs in the lacrimal gland. In orbital fibroinflammatory disease that is localized6 or part of MFSS but without associated thyroiditis,10,11 men are more often affected; furthermore, microscopically the fibrosis is concentrically arranged around blood vessels in muscle and fat rather than longitudinally arranged as keloidal bands as in the lacrimal and thyroid glands of our patient’s biopsies.

We have confirmed the presence of IgA-positive plasmacytes in Riedel thyroiditis, whereas IgG-positive cells typify Hashimoto disease.11 We also found IgA-positive plasmacytes in the fibrotic lacrimal gland.14 A normal IgG4 serum level and a low IgG4-positive plasmacytic tissue density in both glands were possibly caused by the administration of prednisone therapy as IgG4-related fibrofasciation is known to be corticosteroid responsive.10

From the clinical perspective, Riedel thyroiditis should be considered when proptosis or globe displacement is caused by a lacrimal gland swelling accompanied by an extremely firm, smooth enlargement of the thyroid gland. Our case and those previously reported15 have documented that a clinically apparent thyroid mass usually precedes the onset of dacroyoadenitis.

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**COMMENTS AND OPINIONS**

**Foveal Hypoautofluorescence: Does It Correlate to Visual Acuity in White Dot Syndromes?**

We read with great interest the article by Yeh et al1 that analyzed fundus autofluorescence (FAF) in white dot syndromes (WDS). The patients were categorized into 3 groups on the basis of the presence of hypoautofluorescence in the fovea (central 1500 µm surrounding the foveola): normal FAF...