Monoclonal gammapathies - Clinical significance and basic mechanisms
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SOLITARY PLASMACYTOMA OF THE THYROID WITH SERUM MONOCLONAL GAMMAPATHY.

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SUMMARY.

A case of solitary plasmacytoma of the thyroid is reported. A monoclonal component of the IgG lambda type was identified in the serum. Appropriate staging, including the use of immunoperoxydase techniques on bone marrow and lymph node specimens, allowed for elimination of multiple myeloma. Production of IgG lambda by the tumor was proven by immunoperoxydase techniques. The serum monoclonal component completely disappeared after thyroidectomy and radiotherapy.

INTRODUCTION.

To our knowlegde, only 14 cases of solitary plasmacytoma of the thyroid have been reported in the literature. Some of these cases are poorly documented, althought it should be emphasized that complete evaluation, including immunoperoxydase techniques, is necessary to positively eliminate initial multiple myeloma. We report a unique case of solitary plasmacytoma with a serum monoclonal component detected by simple protein electrophoresis and disappearing after treatment.

CASE REPORT.

The patient is a 58-year-old man without any significant medical antecedent. In september 1984, he noticed an indolent, rapidly enlarging cervical swelling that stabilized after two weeks. The patient experienced no other local or systemic symptoms.
On examination, there was a firm, mobile, indolent, non-tender, multilobulated goiter, mainly from the right lobe of the thyroid. There was no cervical adenopathy, but one centimeter bilateral axillary adenopathies were palpable. There was no hepatosplenomegaly and the rest of the physical examination was normal.
Biological analysis showed a normal thyroid function, normal complete blood values,and absence of an inflammatory syndrome. Antithyroglobulin antibodies were elevated (1/1000 to 1/36000). Serum proteins were dosed 77 gr/l. The serum protein electrophoresis showed a high

proportion of gammaglobulins (27 %) and a monoclonal spike in the gamma region. IgG were elevated (21.4 gr/l. N : 7.5-15 gr/l). Immunoelectrophoresis of the serum showed the spike to be IgG of the lambda type. Urinanalysis revealed no Bence-Jones protein.
The skeletal x-ray survey and scintigram were negative. Histological and immunohistological analysis with the immunoperoxydase method of an axillary lymph node biopsy only showed a reactive adenopathy. Bilateral iliac crest marrow aspirations and bone marrow biopsies were normal. The bone marrow study with the immunoperoxydase technique revealed a small number of isolated plasma cells with intracytoplasmic immunoglobulins, most of which being IgA and IgM.
An isolated plasmacytoma or lymphoma of the thyroid was strongly suspected and a right hemithyroidectomy was performed to confirm diagnosis and eliminate a thyroiditis. The surgical specimen was a 110 gram multinodular goiter. Microscopic examination demonstrated a nodular infiltrate of the thyroid tissue by well-differentiated plasma cells. Immature, atypical and even multinuclear cells were occasionally present. Outside these nodules, scarce thyroid follicles looked normal. There were also some lymphoid follicles where we found a mixed infiltrate of lymphocytes and well-differentiated plasma cells suggesting focal thyroiditis. The immunohistological study with immunoperoxydase techniques demonstrated monoclonal production of gamma heavy chains and lambda light chains by the plasma cells, confirming the diagnosis of solitary plasmacytoma of the thyroid.
Therapeutic total thyroidectomy was then decided. At that time, the monoclonal spike in the gamma region was already significantly reduced and total serum IgG had returned to normal (10.9 gr/l). The 20 gram surgical specimen gave rise to the same histological and immunological results as the first time. External jugular chain lymph nodes were analyzed by the same methods and were normal.
Treatment was completed by local irradiation with 4000 Rads. After total thyroidectomy serum proteins, protein electrophoresis and immunoelectrophoresis all returned to normal. One year later the patient was still in good health with no evidence of local or

systemic recurrence.

COMMENTS.

This case is the 15th one reported in the literature. It fullfills all the criteria that should be considered to acertain the diagnosis of a solitary plasmacytoma.

(1) Plasma cell tumor proved by biopsy (and) immunohistological study.

(2) Normal serum protein, serum electrophoresis and immunoelectrophoresis or disparition of a monoclonal peak after local treatment.

(3) Elimination of multiple myeloma by : bone marrow histology (and) immunohistology; skeletal x-ray survey and scintigram; normal complete blood values

Minimal follow-up is necessary to make sure of absence of minimal residual disease. However, local treatment with thyroidectomy and radiotherapy would cure all the patients with this rare plasma cell tumor.

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