

# Prevalence of Lymphocytic Infiltrate in 1400 Pituitary Adenomas

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**Abstract.** To evaluate the prevalence of lymphocytic infiltrate in a large series of pituitary adenomas, we retrospectively studied tumor tissues from 1400 patients. Based on immunocytochemical data, tumors were classified as PRL (n=411), multihormonal (n=310), immunonegative (n=275), ACTH (n=166), GH (n=137), alpha subunit (n=44), FSH and/or LH, (n=42), and TSH (n=15) adenomas. The lymphocytic infiltrate was diagnosed on histological examination and investigated by immunostaining with anti LCA (human leucocyte common antigen), anti CD45RO (human T cell) and anti CD20 (human B cell) antibodies. Lymphocytic infiltrate was present in 40 adenomas (2.9%), 26 females and 14 males, aged 18 to 77 years (mean  $\pm$  SD,  $37 \pm 14$  years). The tumors were 19 PRL, 8 multihormonal, 4 GH, 4 alpha subunit, 3 ACTH, and 2 immunonegative adenomas. In PRL adenomas, the sex ratio (female/male) and the age were similar in patients with and without lymphocytic infiltrate (2.8 vs. 4.6 and  $29 \pm 6$  years vs.  $32 \pm 11$  years, respectively). The frequency of lymphocytic infiltrate was similar in PRL, GH, ACTH and multihormonal adenomas, but lymphocytic infiltrate was significantly more frequent in PRL adenoma than in immunonegative adenoma, and in alpha subunit adenoma than in immunonegative, ACTH and multihormonal adenomas. The lymphocytic cells were almost exclusively T cells. We conclude that lymphocytic infiltrates are rare in pituitary adenomas. Their frequency is not statistically different in major categories of secreting adenomas (PRL, GH, ACTH, multihormonal). Their pathophysiological significance remains to be established.

**Key words:** Lymphocytic infiltrate, Pituitary adenomas, Autoimmunity, Prevalence

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LYMPHOCYTIC infiltrate has been found in a variety of tumors, including intracranial neoplasms [1, 2]. Its presence may be considered as an expression of local cellular immune response of the host to the existing tumor [3]. Data on lymphocytic infiltrate in pituitary adenomas are scarce [4].

The aim of this study was to evaluate the prevalence of lymphocytic infiltrate in a large series of pituitary adenomas.

## Materials and Methods

### Patients

A consecutive series of 1400 pituitary adenomas, operated on in 2 centers (Pitié Hospital, Paris, and Foch Hospital, Suresnes, France), during a 7-year period (January, 1985 to January, 1992), was

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