# LETTERS TO THE EDITOR

## Hyperprolactinaemia in primary Sjögren's syndrome

Prolactin (PRL) is a neuroendocrine hormone that has important immunoregulatory properties. It is a potent mitogen in Nb2 T lymphoma cell line and stimulates both T-cell mediated and humoral immunity.[1] Recently an association between hyperprolactinaemia and certain rheumatic diseases has been described suggesting that PRL may play a role in the pathogenesis of some autoimmune diseases.[2-4] In addition, PRL seems to be an autocrine factor required for viability and proliferation of B lymphoma cells.[5] Furthermore, it was recently proposed that hyperprolactinaemia observed in oestrogen-treated mice may predispose to development of lymphoma in these animals.[6]

Primary Sjögren's syndrome (P-SS) is a chronic autoimmune disease characterised by exocrine glandular insufficiency secondary to lymphocytic and plasma cell infiltration. The spectrum of the disease extends from an organ specific autoimmune disease to a systemic involvement.[7] Characteristically, patients with Sjögren's syndrome (SS) have an increased risk of developing lymphoma.[8]

To investigate an eventual association between hyperprolactinaemia and P-SS, we studied the basal levels of PRL (Radioimmunoassay, NIDDK reagents) in sera from 11 patients with P-SS. The clinical and laboratory characteristics of the patients and their PRL levels are summarised in table 1. Serum from 11 healthy individuals (6 women and 5 men, mean age 40 years) was obtained as controls. All blood samples were obtained at mid morning (always at the same time) and sera were stored frozen at −70°C until tested. None of the patients or controls were taking medication that could increase serum PRL levels (including oestrogen replacement therapy), or had unusual psychological distress that may be associated with increased levels of PRL. All patients had a normal sized sella turcica, normal visual fields, and normal fundoscopic examinations. However, the presence of a pituitary PRL-secreting microadenoma can not be excluded. None of the patients had chronic renal failure, or hypothyroidism.

Sera from five patients (45·5%) were found to have hyperprolactinaemia (PRL > 20 ng/ml).

*Table 2 Basal prolactin levels in 11 patients with primary Sjögren's syndrome (P-SS) and controls*

| *Patients and controls* | *Prolactin levels (ng/ml)* | | *Hyperprolactinaemia (>20 ng/ml)* | |
|---|---|---|---|---|
| | *n* | *Mean level* | *n* | *Mean level* |
| P-SS | 11 | 25·2* (2·8–75·9) | 5 | 40·6 (24·6–75·9) |
| Controls | 11 | 10·4 (2·3–19·1) | 0 | – |

*Comparison between P-SS and controls: p = 0·04 (Mann-Whitney test). Values in parentheses are ranges. n: Number of individuals.

None of the normal control subjects had hyperprolactinaemia. The mean (SD) level of PRL in P-SS was significantly higher than in controls [25·2 (20 ng/ml *v* 10·4 (7·2) ng/ml, p = 0·04, by Mann-Whitney test] (table 2). We did not find any correlation between levels of PRL and systemic manifestations or the presence of autoantibody (ANA, anti SS-A, anti SS-B, and rheumatoid factor).

These preliminary data showed the presence of hyperprolactinaemia in a subset of P-SS patients. Although there were more females in the patient group all of them were postmenopausal women (without oestrogen replacement therapy), so that high PRL levels were not influenced by oestrogen. The exact cause of hyperprolactinaemia in this subset of P-SS patients needs further investigation. However, it could be a dysfunction of the neuroendocrine system with an imbalance between increased immunostimulatory PRL and decreased immunosuppressive cortisol as has been described in patients with RA.[9] Another potential source of the hyperprolactinaemia found in these patients is the PRL released by lymphocytes. T and B lymphocytes may produce PRL-like proteins that are biologically active that function as autocrine growth factor for lymphoproliferation.[10] Further studies, including a larger number of patients and serial determinations of the hormone to confirm these observations and to establish the exact role of PRL in P-SS, are needed.

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## Interleukin-6, acute phase reactants and clinical status in ankylosing spondylitis

Interleukin-6 (IL-6) may play a role in the pathogenesis of inflammatory disorders such as rheumatoid arthritis (RA) and other inflammatory arthritides.[1 2] We have previously shown that acute phase reactants (APRs) show only minor changes in ankylosing spondylitis (AS). Specifically, in a series of 43 patients with severe AS the numbers with abnormal results for erythrocyte sedimentation rate (ESR), plasma viscosity (PV) and C-reactive protein (CRP) were only 34, 57 and 64% respectively.[3]

We explored therefore the potential of IL-6, in comparison with APRs, to assess disease activity in AS.

Fifty consecutive patients [37 male, 13 female; mean (SD) current age: 46·6 years (13·12)] with primary AS (that is, no

*Table 1 Characteristics and prolactin levels of 11 patients with primary Sjögren's syndrome*

| *Case* | *Sex* | *Age (yr)* | *Duration of disease (yr)* | *Systemic manifestations* | *ANA* | *Anti SS-A* | *Anti SS-B* | *Rheumatoid factor* | *ESR (mm/h)* | *Prolactin (ng/ml)* |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F | 60 | 6 | V, M, PNS, L | + | + | + | + | 52 | 34·05 |
| 2 | F | 71 | 2 | – | ND | – | ND | – | 60 | 40·63 |
| 3 | M | 28 | 1 | V, PNS | + | + | + | + | ND | 75·90 |
| 4 | F | 50 | 1 | K, V, P | + | + | + | ND | 76 | 15·17 |
| 5 | F | 61 | 6 | – | + | – | – | – | ND | 28·15 |
| 6 | F | 58 | 16 | L | + | + | + | + | 40 | 12·99 |
| 7 | F | 55 | 4 | R, L, G | + | – | – | ND | 109 | 18·75 |
| 8 | F | 57 | 12 | – | – | – | ND | + | ND | 24·63 |
| 9 | M | 58 | 4 | L, M | + | + | + | – | 81 | 9·15 |
| 10 | F | 49 | 17 | A, R, V | – | + | ND | + | ND | 2·80 |
| 11 | F | 32 | 7 | V | – | + | – | + | ND | 15·40 |

Abbreviations: F: Female. M: Male. +: Present. –: Absent. ND: Not done. ANA: Antinuclear antibody. ESR: Erythrocyte sedimentation rate. V: Vasculitis. M: Myositis. PNS: Peripheral neuropathy. L: Interstitial lung disease. K: Proximal tubular acidosis. R: Raynaud. G: Atrophic gastritis. A: Adenopathy.