LETTER TO THE EDITOR

Gonadal dysfunction in males with prolactinoma: from functional modification to irreversible damage?

We read with interest the article by Colao et al. (1) concluding that the impairment of gonadal function in males with prolactinoma is a functional modification, reversible under chronic treatment with the dopamine agonist CV 205–502. It must be pointed out that this reversal of gonadal dysfunction was observed in 13 out of 14 middle-aged patients (mean age 40 years, range 35–45 years) presenting with relatively small tumours and mild testosterone deficiency. Half of the tumours were intrasellar and the mean pretreatment prolactin (PRL) level of the 7 patients with no previous treatment was 539 μg/l (range 210–900 μg/l). All but 4 patients had baseline testosterone values above 3 μg/l (mean 3.4 μg/l). Unfortunately, these are not the characteristics of all PRL-secreting pituitary tumours in males. They occur in all ages (2, 3) with more than 40% (19/45) diagnosed after the age of 45 in our experience (4). In most series (2–4), mean pretreatment PRL levels are above 2000 μg/l, whereas none of the patients included in the present study had values above 1000 μg/l. Mean testosterone levels are usually much lower: 1.3 μg/l in the study of Berezin et al. (3) and 1.5 μg/l in our series. We found testosterone values above 3 μg/l in only 5 out of 41 patients, 4 of whom presented with a short history of disease (less than 2 years). The duration of symptoms prior to diagnosis was not indicated in the study by Colao et al. (1) but could be short as a possible explanation for the mild testosterone secretion impairment observed. Indeed, the 5 men with the highest testosterone levels described by Hulting et al. (2) also had a short history of disease.

Therefore, a possible restoration of gonadal function in men with large prolactinomas and major, probably long-standing, impairment of testosterone secretion after normalization of serum PRL levels remains questionable. Indeed, large tumours could cause irreversible damage to the pituitary gonadotrophs as suggested by the study of Berezin et al. (3), who observed a significantly higher increase in testosterone levels after PRL normalization in patients with pretreatment basal PRL levels below 1000 μg/l than in patients with higher PRL levels. In addition, 3 out of the 5 patients studied by Murray et al. (5) continued to have abnormal semen analyses after 12–15 months of follow-up despite a complete normalization of serum PRL levels in 4 patients, leading the authors to evoke the possibility of an irreversible effect of hyperprolactinemia on spermatogenesis.

Further studies, including patients presenting with large tumours and severe testosterone deficiency, are probably required before concluding that the impairment of gonadal function observed in males with prolactinoma is reversible.

References


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Received 13 March 1997
Accepted 17 March 1997