



## Long-term follow-up of male patients with prolactinomas: Is bone densitometry necessary?

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### Introduction

Male patients with prolactinoma commonly present with macroadenoma and a history of long-standing hypogonadism. Data regarding the effect of hypogonadism on bone health in these patients is scarce. The present study compared the long-term results of male patients with prolactinomas treated primarily either surgically or medically.

### Methods

This retrospective study evaluated the records of 44 male patients with proven prolactinoma. Clinical and biochemical characteristics and tumor size were assessed at baseline, first-, and last- follow-up.

### Results

The mean age at diagnosis was 47 years (range; 22-78). Mean Body Mass Index (BMI) at diagnosis was  $28.7 \pm 4.5$  kg/m<sup>2</sup>. Median prolactin levels were 1979  $\mu$ g/L [interquartile range (IQR) 768.4 – 5368], and MRI scan showed macro- or microadenoma in 82% and 18% of patients, respectively. Pathological bone density was detected in 28% of all patients at baseline. The primary therapeutic strategy was operation for 34% and administration of dopamine agonists for 66% of patients. The average long-term follow-up was  $81.4 \pm 62.6$  months. Mean BMI tended to decrease, from  $28.7 \pm 4.5$  to  $28.0 \pm 4.4$  kg/m<sup>2</sup> ( $p=0.36$ ). Median prolactin concentration decreased significantly, to 13.8  $\mu$ g/L [IQR, 6.2 –29.4] ( $p<0.001$ ) and was within normal range in 73% of all patients. Hyperprolactinaemia was controlled in 66% of the medically treated group versus 93% of the surgically treated group ( $p=0.07$ ). Control of hyperprolactinaemia required dopamine agonist therapy in 47% of patients with primary surgical therapy, compared to 90% of patients with primary medical therapy ( $p=0.003$ ). Fifty-five percent of all patients required testosterone therapy. Biphosphonate and/or vitamin D and calcium were prescribed in 30% of all patients, with no significant difference according to the therapeutic strategy (i.e. primary surgery vs. primary medical therapy;  $p=0.16$ ).

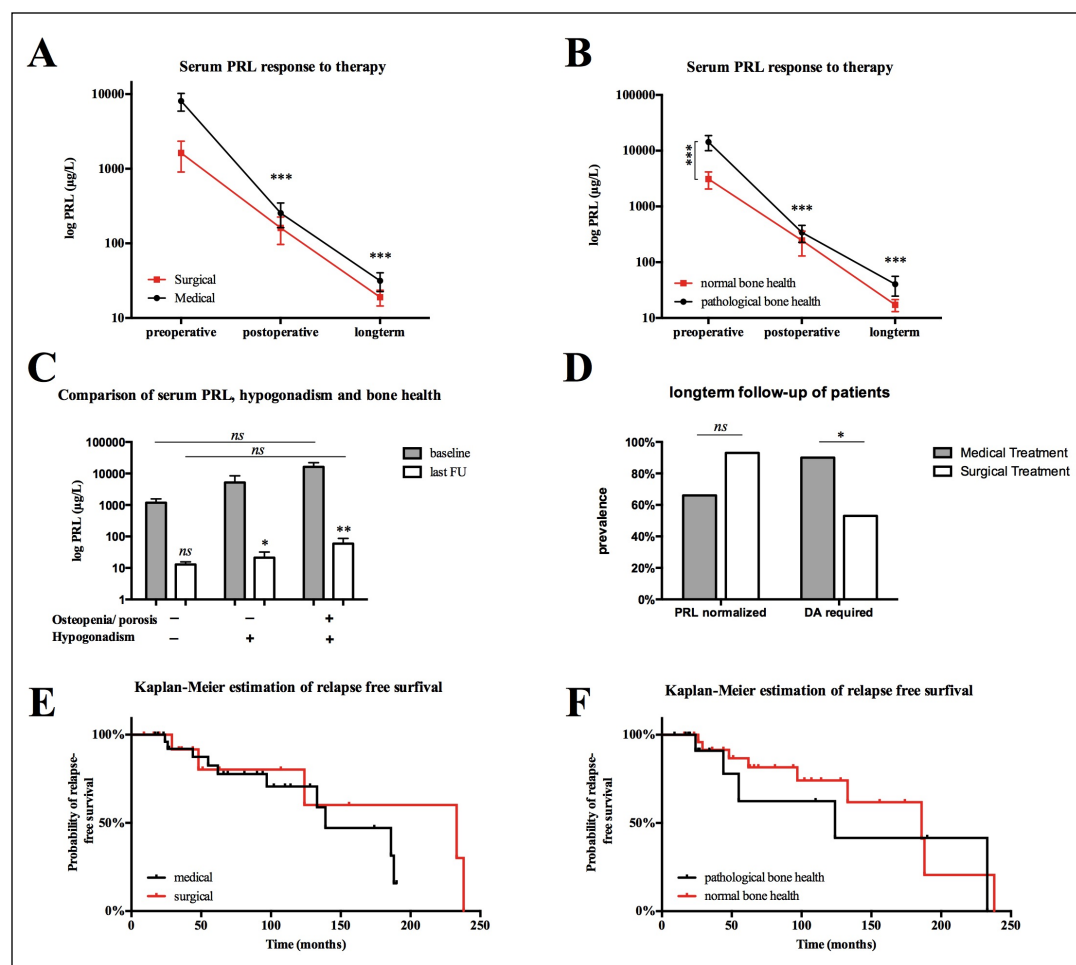
### Conclusions

Based on our results, bone densitometry in male patients with prolactinoma can be recommended. The present data support the discussion about the need for pituitary surgery as primary treatment in selected male patients aside from the classical indication (i.e. intolerance of dopamine agonists and non- responder).

### Learning Objectives

By the conclusion of this session, participants should be aware that:

- 1) Osteopenia is a common co-morbidity in male patients suffering from prolactinoma
- 2) Surgery can be recommended as primary treatment in selected male patients



Changes in serum PRL levels before and after treatment, comparing primary medical versus surgical treatment (A), and normal versus pathological bone health status (B). Median prolactin concentration decreased significantly after treatment in all groups. Further, there was a significant difference in serum PRL levels in patients with and without impaired bone health status at baseline ( $p=0.009$ ), but not at long-term follow-up ( $p=0.29$ ). Hypogonadic patients with a pathological bone health status exhibited non-significant trend for higher serum PRL levels at baseline and last follow-up in comparison to patients with a normal bone health status ( $p=0.48$ , and  $p=0.27$ , respectively; C). Control of hyperprolactinaemia required dopamine agonist therapy in 47% of patients with primary surgical therapy, compared to 90% of patients with primary medical therapy ( $p=0.003$ ; D). Kaplan-Meier estimation of recurrence free survival after medical and surgical therapy (E;  $p=0.39$ ) and as a function of patient's bone health status (F;  $p=0.53$ ).