



Hyperprolactinaemia causes and manifestation in outpatient practice

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INTRODUCTION

Hyperprolactinaemia is a common endocrine disorder. In the general population rate of hyperprolactinaemia reaches up to 3%. In young women with secondary amenorrhea its prevalence varies from 5% to 14%, depending on age and manifestation [1–6]. Causes are related to physiological factors, renal and liver failure, hypothyroidism, autoimmune disorders, prolactinoma and other pathological conditions. There are a wide variety of drugs that can induce a significant hyperprolactinaemia frequently associated with clinical symptoms. Prolactinomas are the most common hormone-secreting pituitary tumours [1–11]. Women with prolactinoma present with clinical manifestations of galactorrhoea, primary or secondary amenorrhea or irregular cycles, delayed menarche, infertility, body weight gain, the presence of a pituitary tumour may cause visual-field defects or headache [1–9]. The condition causes systemic complaints that often resolve when the prolactin level returns to normal or once the tumour shrinks [1–6].

OBJECTIVE

The aim of the study was to analyse clinical manifestation of hyperprolactinaemia in routine clinical practice.

MATERIAL AND METHODS

We conducted retrospective review of medical records of patients with hyperprolactinaemia (serum prolactin concentration > 1000 mIU/l) treated at Vilnius Antakalnio outpatient clinic in 2011–2014. Pregnant and lactating women and patients with macroprolactin were excluded. We recorded demographic data, medical history, body mass index (BMI), LH, FSH, TTH, LT4, anti-TPO concentration and MRI results.

Statistical analysis was performed using software SPSS version 20.0. Categorical variables were reported as numbers and percentages, and continuous variables as mean and SD. The between-group differences were examined with Mann–Whitney U test. For categorical variables the significance of differences among the groups was evaluated with the χ^2 test. The significance level chosen to test statistical hypotheses was 0.05.

RESULTS

We analysed data of 68 patients (4.4% male and 95.6% female). Mean age was 31.60 ± 9.23 years. Mean prolactin concentration was 1448.75 ± 526.78 mIU/l. Patients' characteristics are presented in Table 1.

Table 1. Patients' characteristics

Variable	Mean \pm SD
Age, years	31.60 ± 9.23
BMI, kg/m ²	25.41 ± 6.43
Prolactin, mIU/l	1448.75 ± 526.78
LH, U/l	8.98 ± 4.97
FSH, U/l	6.73 ± 1.92
TTH, mIU/l	2.33 ± 1.83
LT4, pmol/l	13.80 ± 4.65
anti-TPO, kIU/l	176.61 ± 242.36

Irregular cycles were observed in 48.5% of women, galactorrhoea in 20.6%, and infertility in 20.6%. Headache was present in 17.6% of patients, body weight gained in 13.2% of women (Figure 1).

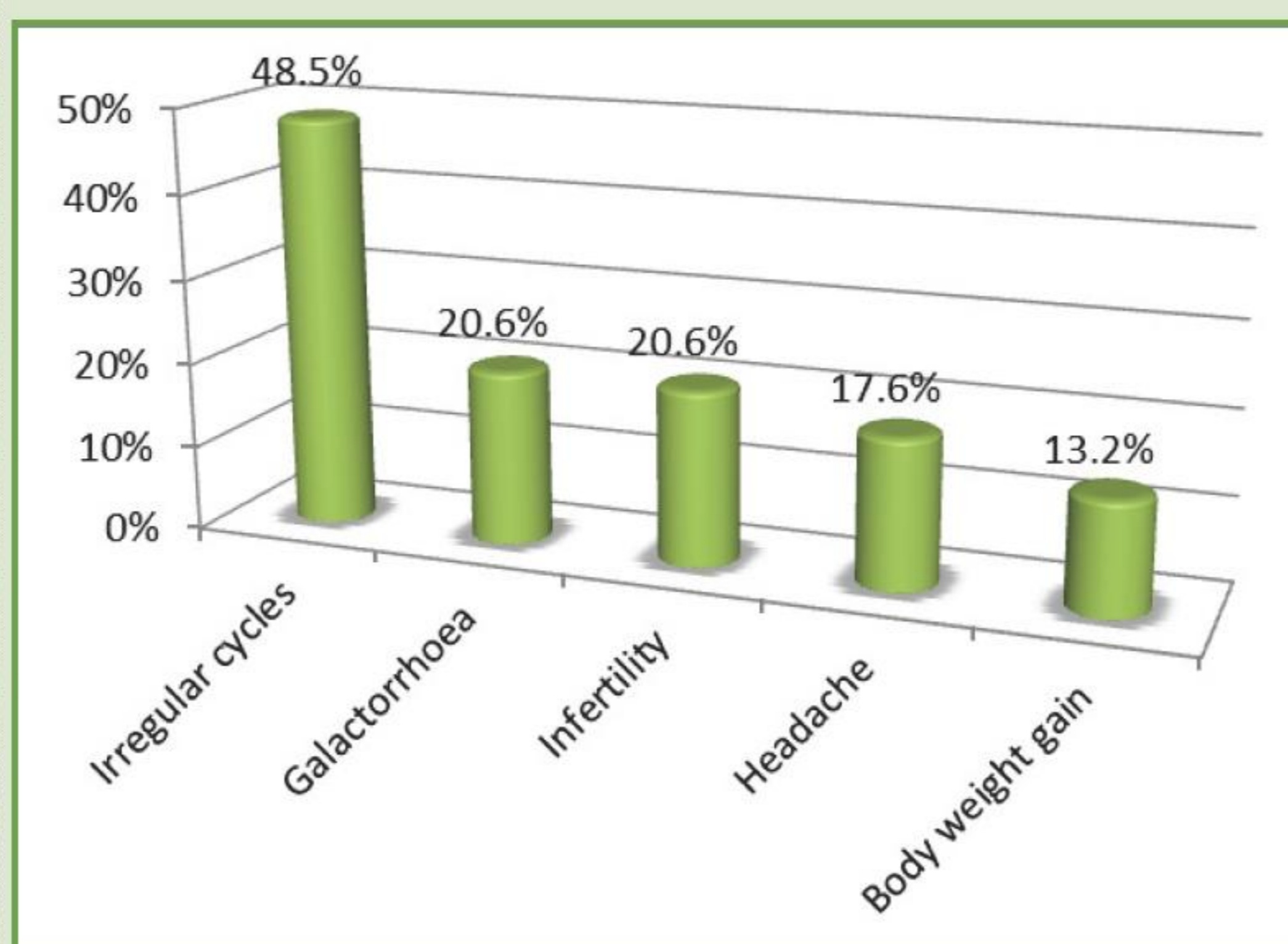


Figure 1. The most frequent complains of patients with hyperprolactinaemia.

The most frequent concomitant diseases were thyroid disorders (41.2%), mental illnesses, including usage of antidepressants or neuroleptics (14.7%) and polycystic ovary syndrome (7.4%).

50.0% of the patients underwent MRI: pituitary microadenoma was diagnosed in 13 patients, macroadenoma in 2, empty sella syndrome in 1 and pituitary cyst in 1. MRI results of 17 patients didn't show any pathology.

Table 2. Comparison of patients with and without pituitary pathology

Variable	Patients with pituitary pathology, N=17	Patients without pituitary pathology, N=17	p
Age, years	35.35 ± 9.41	27.88 ± 8.14	0.012
BMI, kg/m ²	25.91 ± 7.81	23.12 ± 5.92	0.606
Prolactin, mIU/l	1509.25 ± 538.74	1288.41 ± 281.15	0.375
TTH, mIU/l	2.88 ± 2.76	2.07 ± 1.17	1
LT4, pmol/l	13.10 ± 7.64	14.56 ± 3.82	1
anti-TPO, kIU/l	176.17 ± 213.76	276.67 ± 342.55	0.429

Patients with pituitary pathology were older than those with normal MRI results (35.35 ± 9.41 vs. 27.88 ± 8.14 years, $p=0.012$). There was no difference in prolactin concentration, hormone concentration, BMI, frequency of complains and underlying diseases between groups (Table 2 and Figure 2).

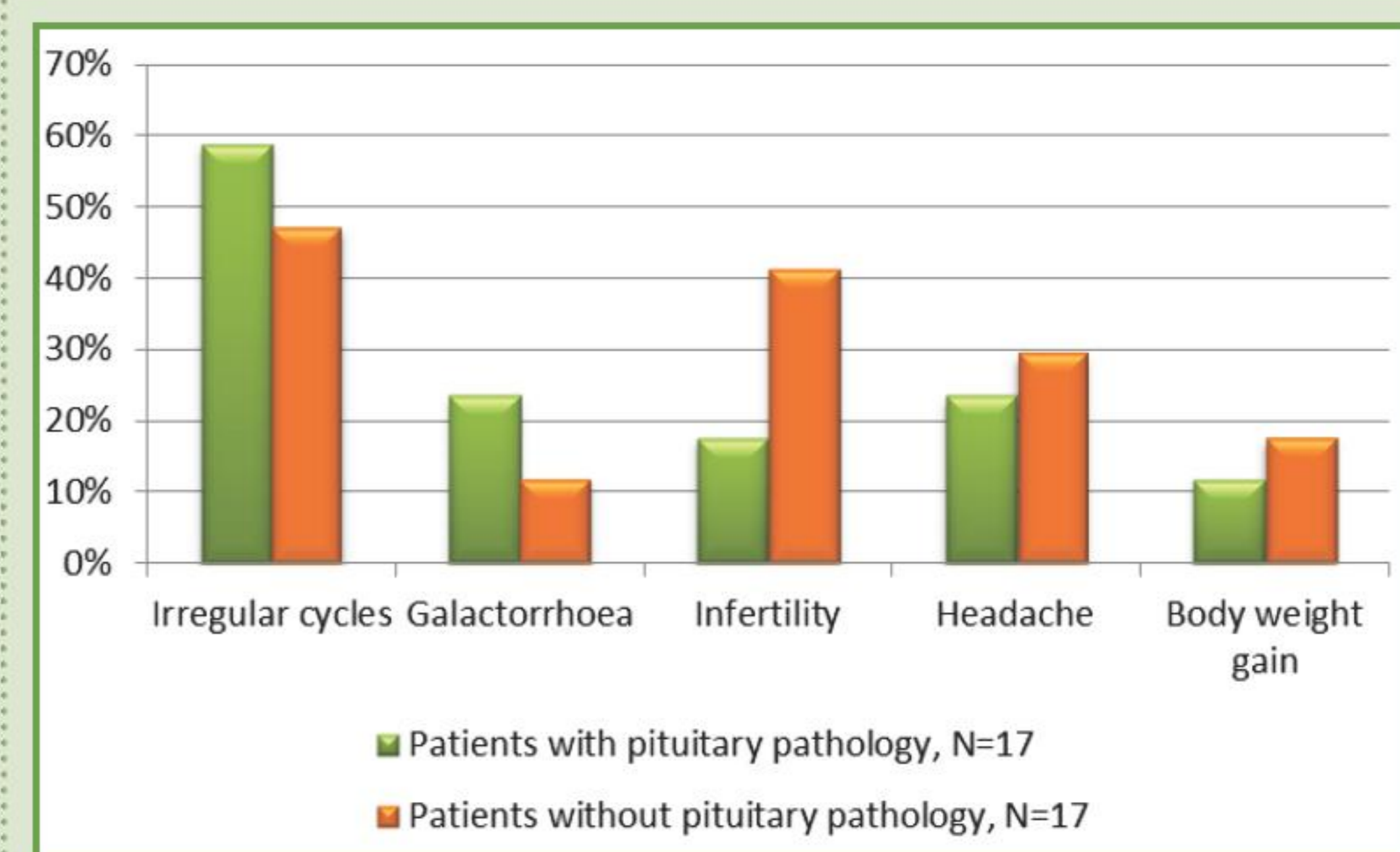


Figure 2. The frequency of complains in groups of patient with and without pituitary pathology.

In a group of patients without pituitary pathology anti-TPO was associated with prolactin level ($r=0.900$, $p=0.037$).

76.4% of patients with hyperprolactinaemia were treated with dopamine agonists (bromocriptine or cabergoline).

CONCLUSION

Main clinical manifestation of hyperprolactinaemia was menstrual irregularity, galactorrhoea and headache. In routine practice up to 50% of hyperprolactinaemia cases were associated with causes other than pituitary tumours.

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