

Could PHPT be diagnosed even more frequently in its early stage?

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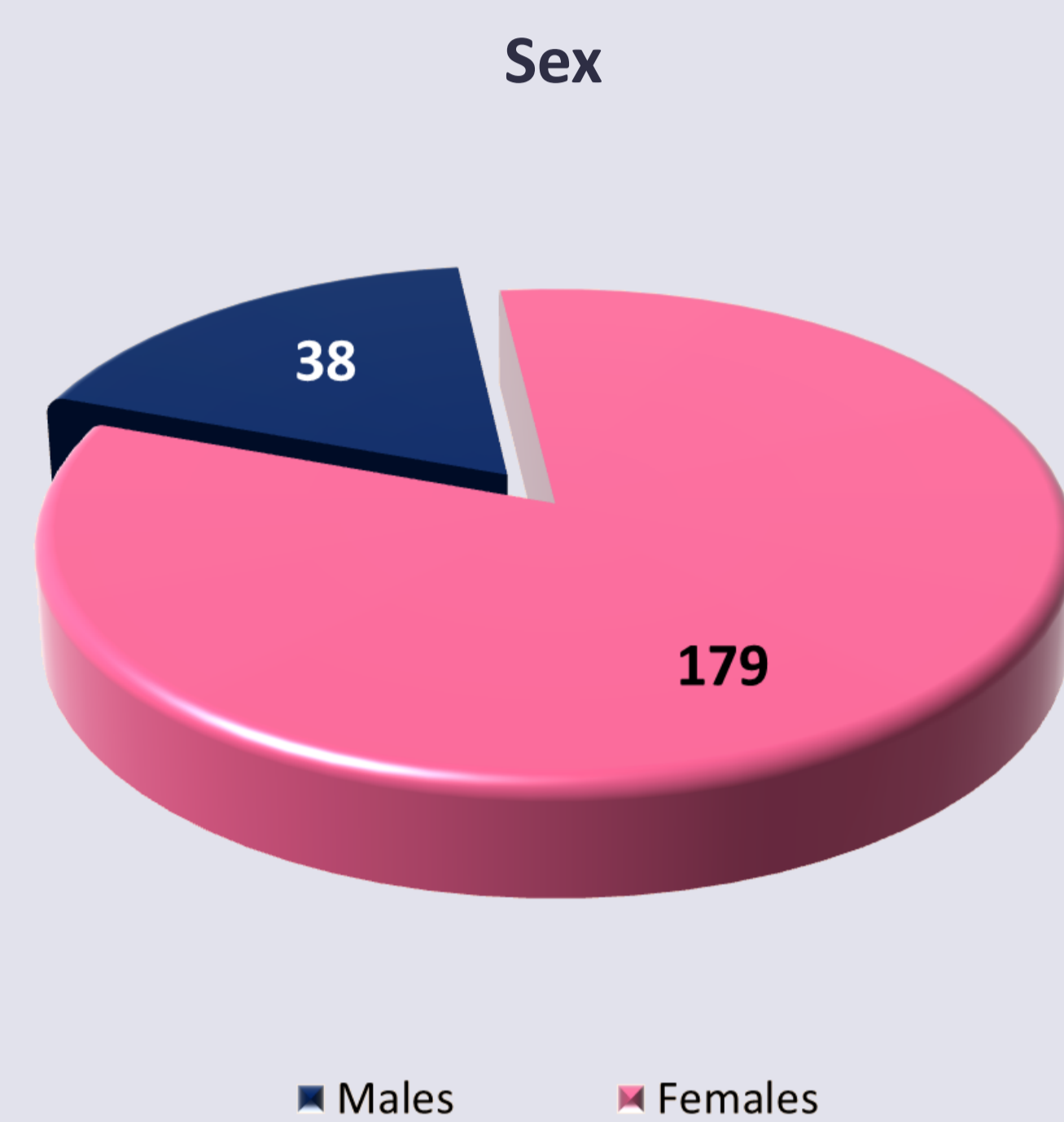
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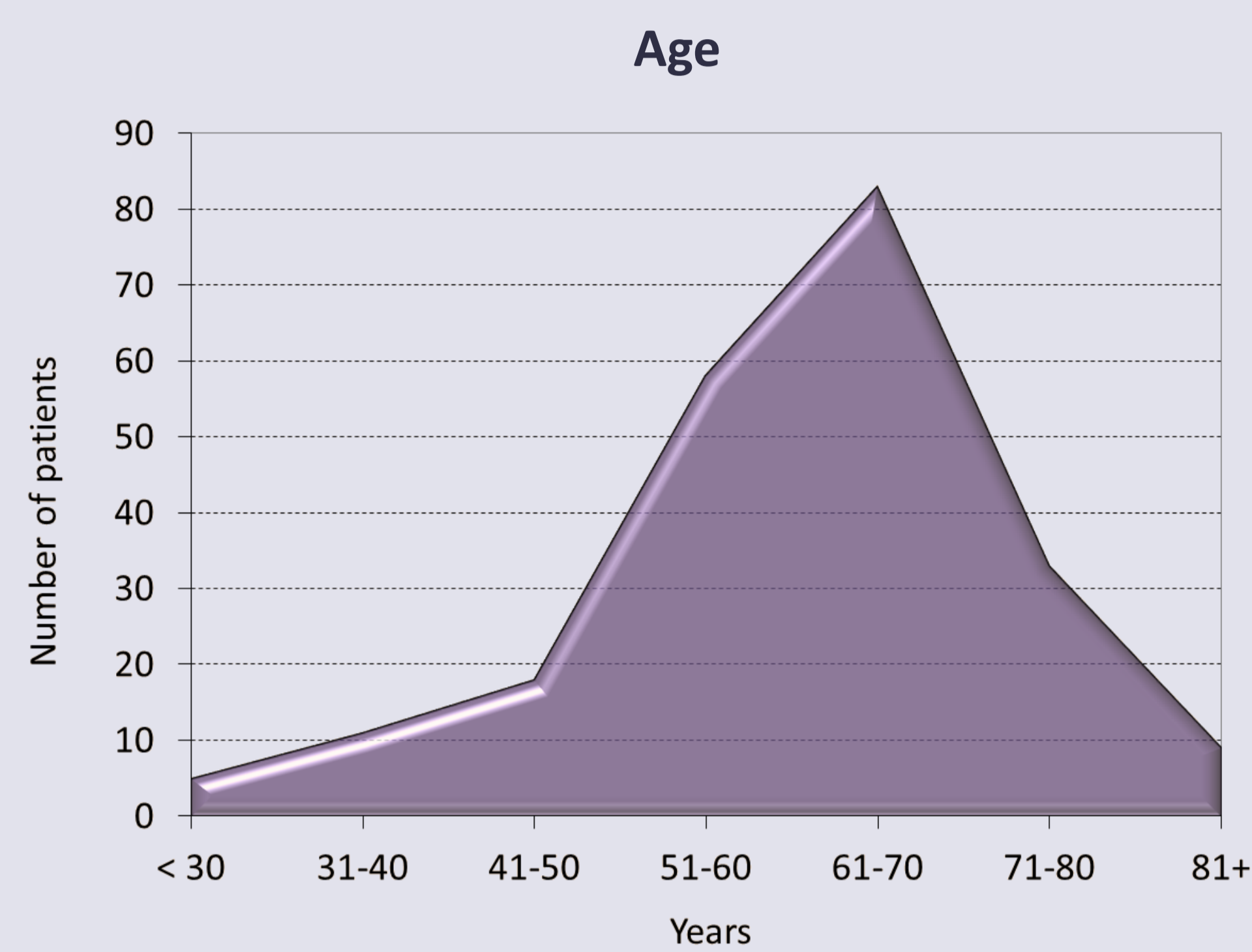
Primary hyperthyroidism (PHPT) is usually diagnosed in asymptomatic period nowadays. Even though a considerable success has been achieved, in some cases PHPT is not discovered prior to the development of complications. A prospective study focusing on diagnostics and therapy of PHPT has been conducted at two tertiary centers of endocrinology in the Czech Republic since January 1st, 2007, with early diagnosis of PHPT being one of its aims.

Examined group

From January 1st, 2007, till December 31st, 2012, PHPT was found in 217 patients.

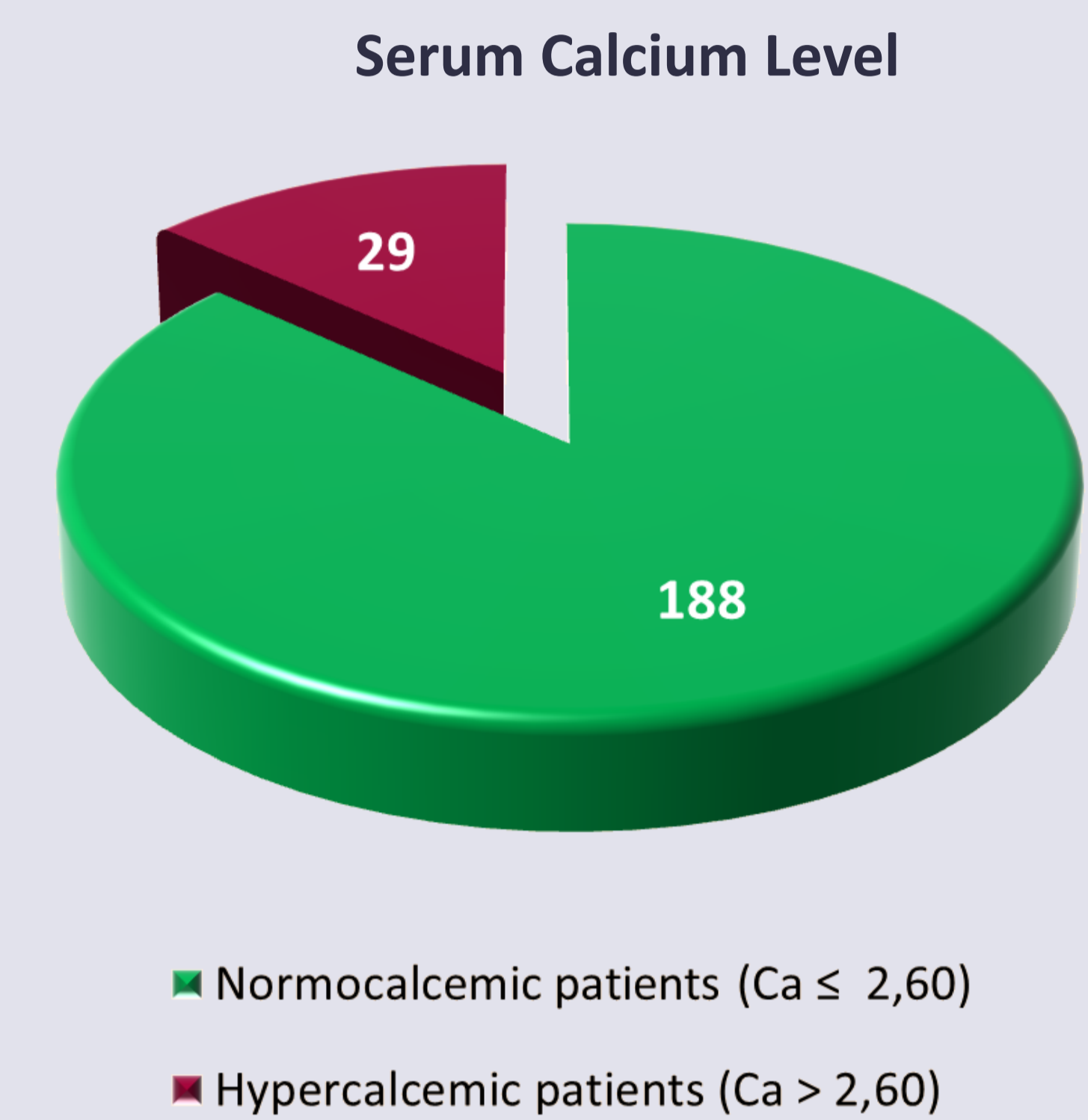


More than four fifths of patients were females.



The age median was 62 years. Two thirds of the patients were in the 6th or 7th life decennium at the time of diagnosis

METHODOLOGY



Serum calcium level was normal (2,60 mmol/l or less) in nine tenths of patients at the time of their first visit.

Significant laboratory findings at the first examination

Hypercalcemic patients (N 29)

Initial serum calcium level ranged between 2.65 – 3.61 mmol/l
Median 2.85. Average 2.91
Initial parathyroid serum level ranged between 7.2 – 153 pmol/l
Median 18.7. Average 27.4.

Normocalcemic patients (N 188)

Initial serum calcium level ranged between 2.05 – 2.60 mmol/l
Median 2.38. Average 2.38
Initial parathyroid serum level ranged between 7.2 – 26.9 pmol/l
Median 8.5, Average 9.5.

RESULTS

Hypercalcemia in originally normocalcemic patients: how often, when, may be serious?

1. Can hypercalcemia be expected rather often?

YES. Hypercalcemia developed in 28 patients from the whole group of 188 initially normocalcemic patients (14,9%).

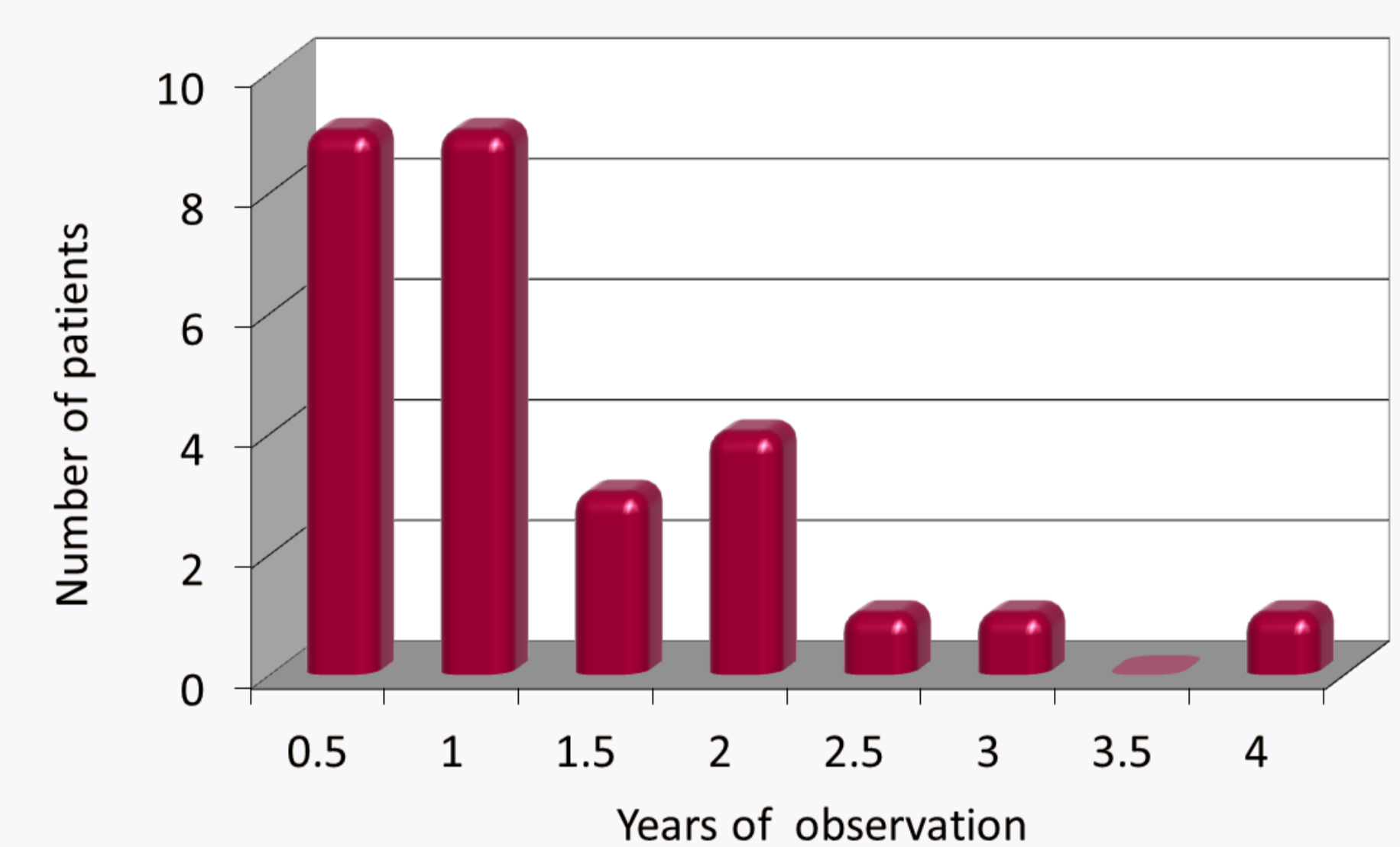
2. Can hypercalcemia be developed in patients with long-term normocalcemia?

YES. The changeover from normocalcemia to hypercalcemia was achieved in 18 patients by the end of the first year and in 25 patients by the end of the second year. In rare cases, however, hypercalcemia developed even in the fourth year of observation.

3. Can also a serious hypercalcemia be developed in such cases?

YES. High hypercalcemia (up to 3,15 mmol/l) developed in 3 cases and moderate hypercalcemia (up to 2,85 nmol/l) developed in 25 cases in the group of 28 patients originally normocalcemic.

When hypercalcemia has been developed?



Clinical features cannot help in prediction of hypercalcemia in PHPT patients

Fatigue, gastrointestinal signs, muscular and bone pain, and psychiatric problems were the most frequent complains of the patients with normocalcemic PHPT. No significance of any sign seemed to be useful for prediction of hypercalcemia development.

Parathyroidectomy can be necessary also in originally normocalcemic PHPT patients

Parathyroidectomy was necessary (and fully successful) for five patients with originally normocalcemic PHPT. Long-time medical therapy was indicated in three patients and the "watchful waiting" method was applied for the rest of the patients (N 20).

Coincidence of PHPT and pituitary gland disorders was remarkably often

A frequent coincidence of PHPT and disorders of pituitary gland was observed. Significance of this finding needs to be confirmed.

CONCLUSIONS

- Serum parathyroid hormone level examination in asymptomatic normocalcemic patients seems to be the most important tool of PHPT early detection.
- Development of hypercalcemia may be expected even in one sixth of normocalcemic patients with PHPT. Examination of serum parathyroid hormone level may be justified also in normocalcemic patients without signs of PHPT.
- A frequent coincidence of PHPT and other endocrine disorders was detected, still, this finding needs to be verified.