

Recently much attention is attracted the issue of increasing the risk of fractures in patients with nephrolithiasis (NL) ^{1,2} and is considered a possible association pathophysiology of osteoporosis /osteopenia and NL.^{5,6}

The aim:

Assess the state of bone metabolism, levels of vitamin D in patients with NL Compared with healthy individuals appropriate age and sex.

Materials and Methods

- ✓ 58 patients with NL (36 women and 22 men)
- ✓ 20 healthy individuals

Exclusion criteria : primary hyperparathyroidism and other endocrine pathology, chronic renal failure, a history of receiving bisphosphonate and / or calcium and vitamin D.

All patients were studied markers of bone metabolism: b-cross laps (CTX), osteocalcin (OC); 25 OH vitamin D (studied in the period from autumn to early spring); PTH, calcium levels in the blood and urine daily.

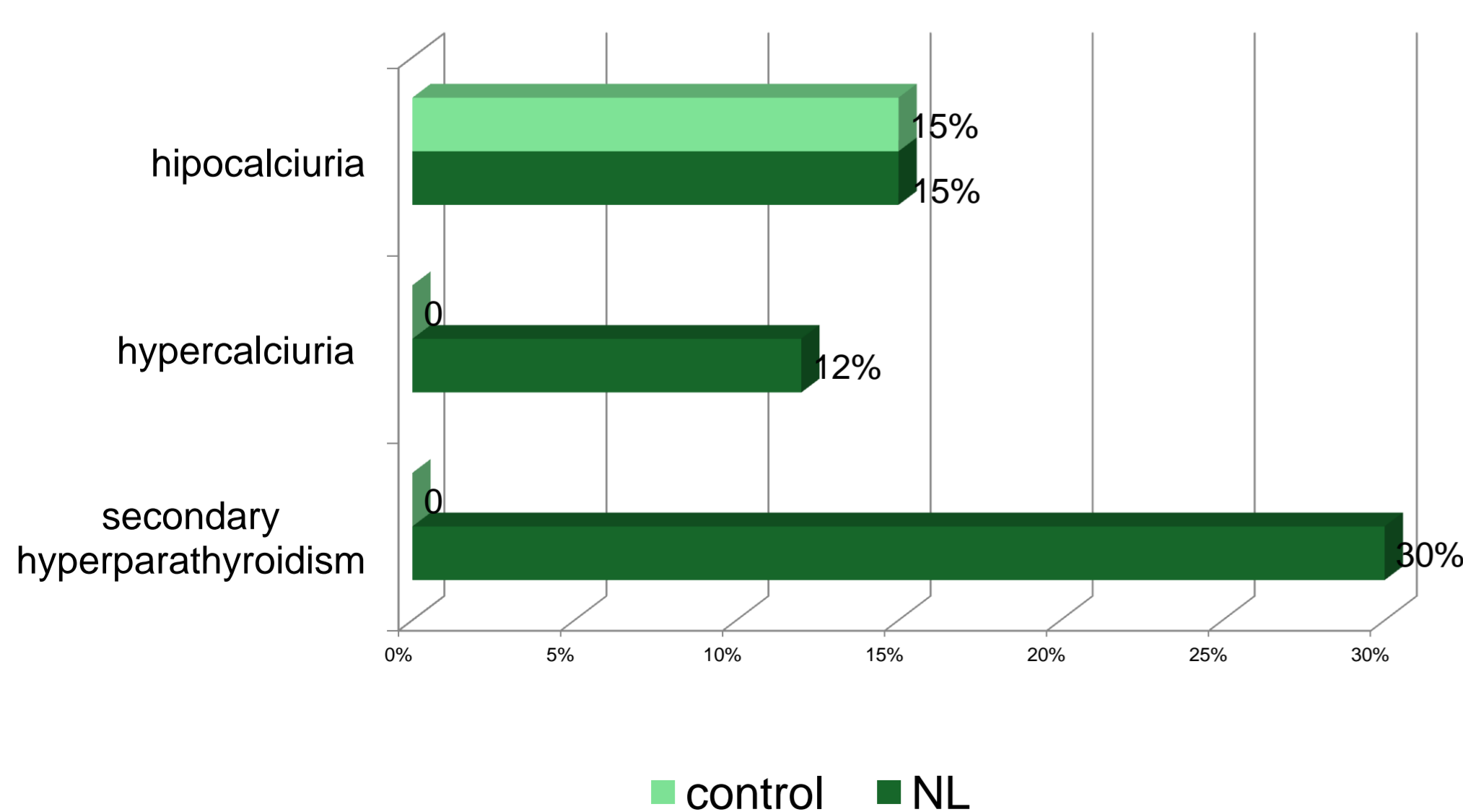
Groups did not differ on

✓ age (mean age of patients with NL $50 \pm 11,4$ years (range 17 to 50 years) vs $51 \pm 12,7$ years (range 21 to 72 years) in the control group)

✓ The number of postmenopausal women (61% in the NL group vs 59% in the control group)

✓ Glomerular filtration rate, carbohydrate and purine metabolism, body mass index.

Feature indicators calciuria and calciemii, PTH levels (%):



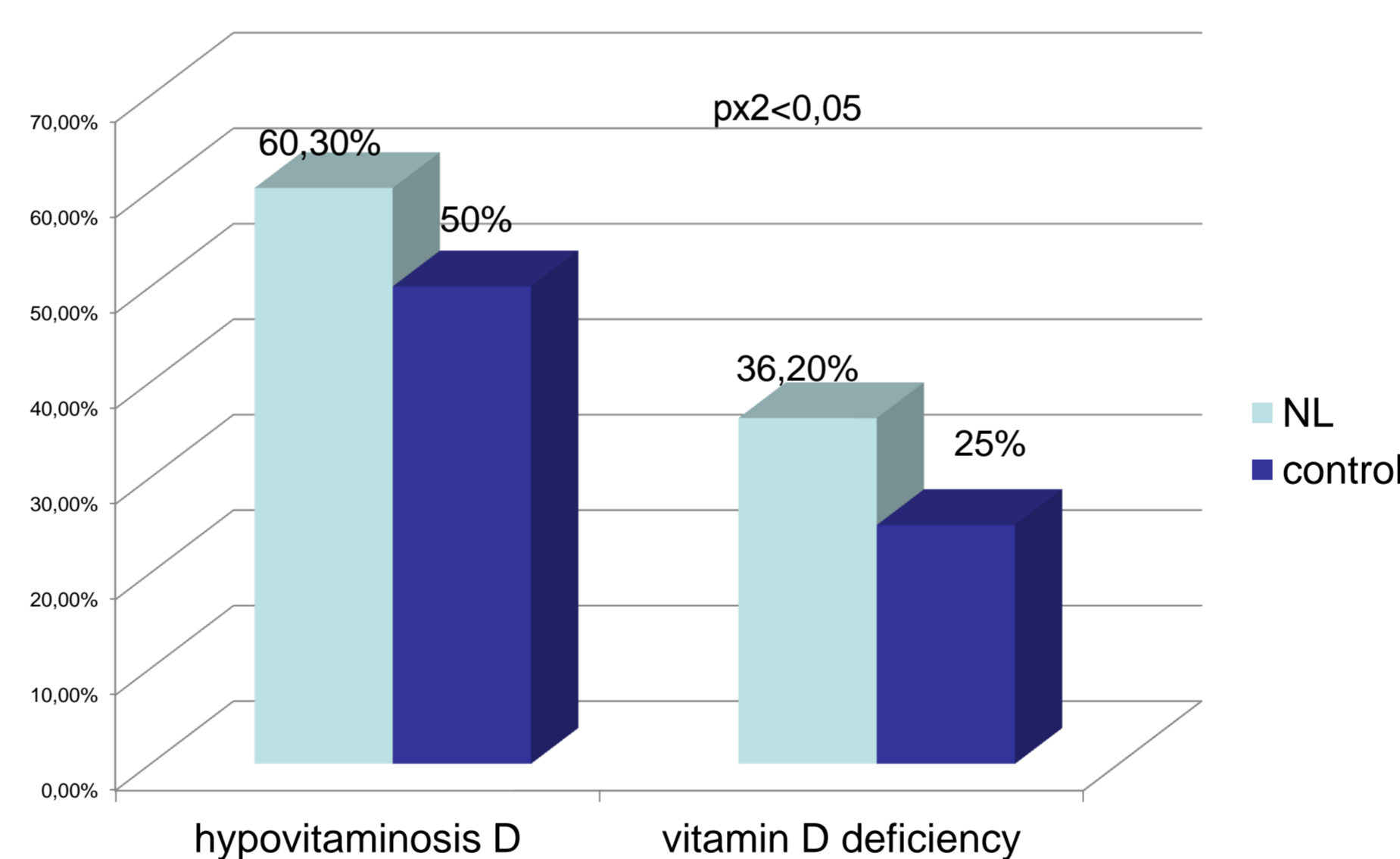
Results:

When comparing patients with NL and control group no significant differences were obtained on the investigated parameters:

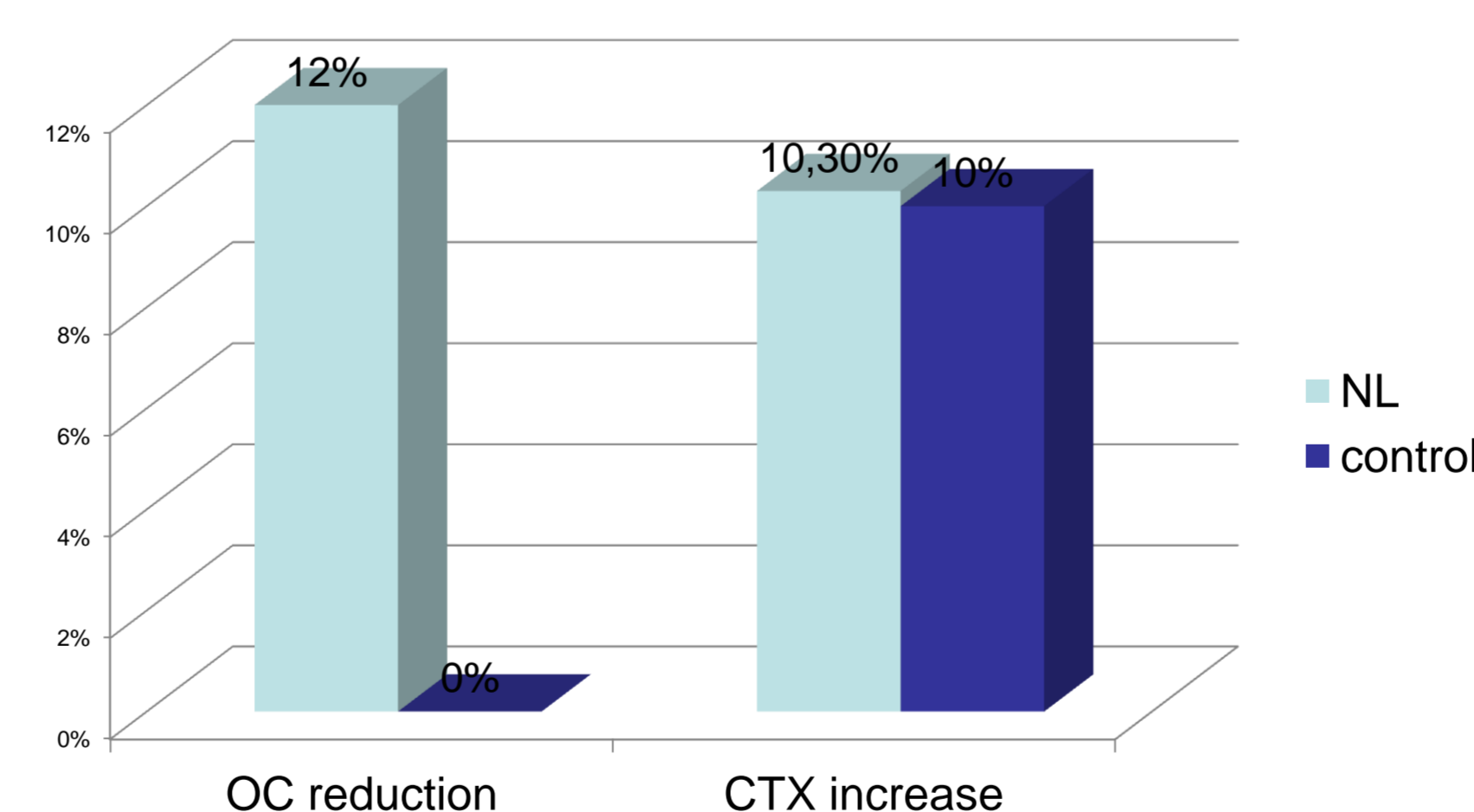
Parameters	NL	control	p
PTH (pg/ml)	61 [39,3;69,1]	58,3 [42,8;65,5]	P=0,8580
25 OH vit D (ng/ml)	17,27 [11,3;21,6]	19,97 [14,9;23,9]	P=0,2774
CTX (ng/ml)	0,51 [0,218;0,613]	0,43 [0,3;0,68]	P=0,8480
OK (ng/ml)	24,8 [16,9;31,7]	25,36 [17,5;26,7]	P=0,9792

However, in patients with NL were significantly more marked reduction of 25 OH vitamin D.

Reduced levels of vitamin in both groups (%):



Alteration in bone turnover markers in both groups (%):



There was an inverse relationship OC level to the level of 25 OH vitamin D NL patients ($r = -0,0321$, $p = 0,0213$)

Conclusion

Thus, there were no differences in terms of calcium and phosphorus metabolism and bone metabolism between patients with NL and healthy individuals as a whole. However, attention is drawn to a significantly greater frequency of decreased vitamin D levels in patients with NL .The same trend has been shown in several other works^{3,4}. In addition,30% of patients NL showed an increase of PTH, which was of a secondary, and 12% hypercalciuria. Further research is needed on a larger group of patients with varying degrees of NL severity and duration of the definition of the BMD , the incidence of fractures in comparison with the population control .

References

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