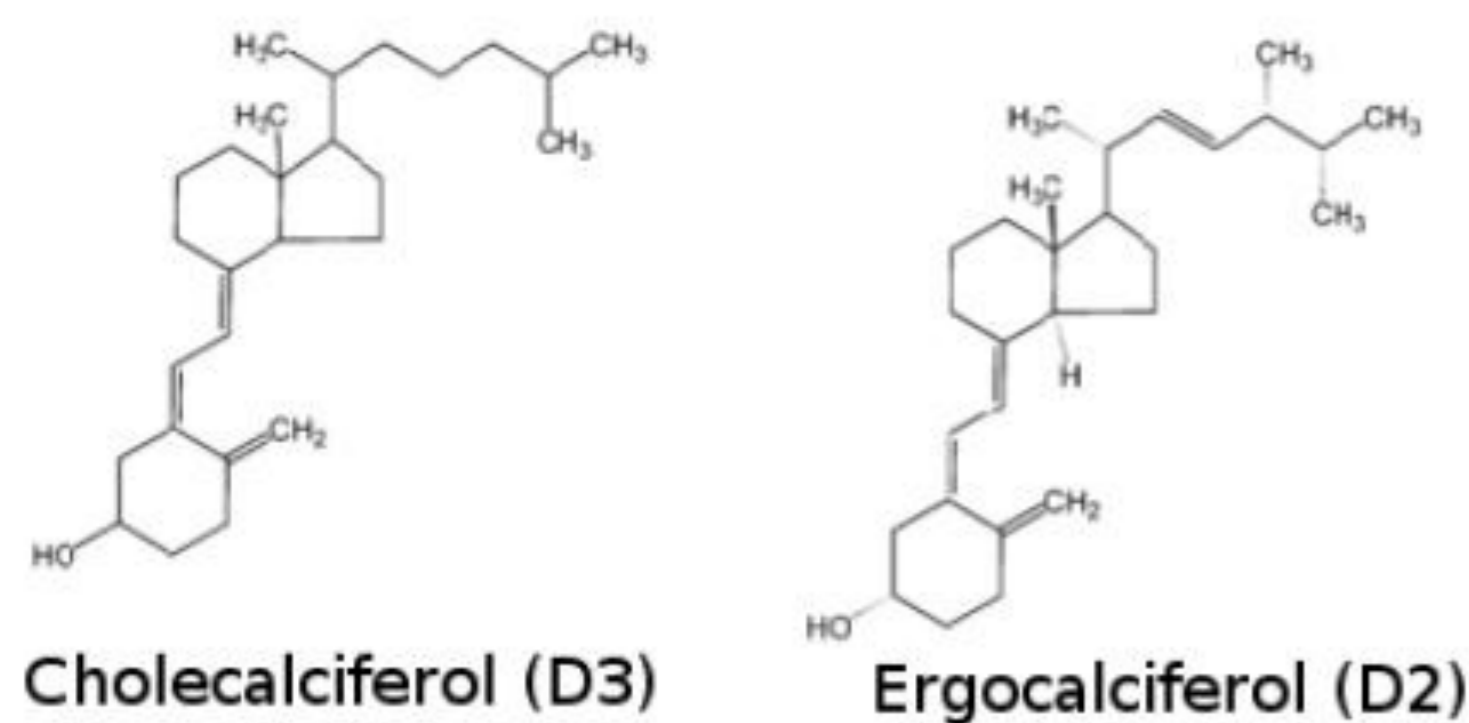


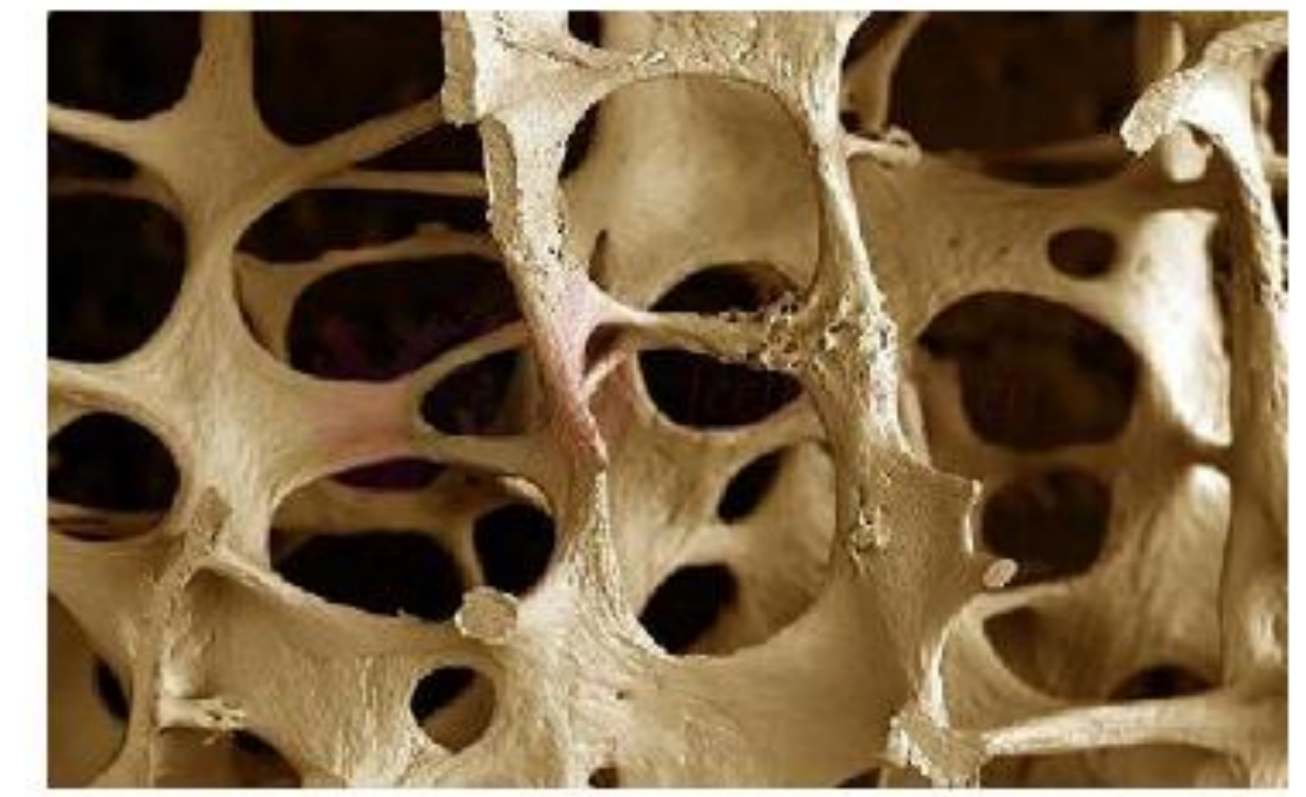
IMPACT OF VITAMIN D SUPPLEMENTATION ON CALCIUM BLOOD LEVEL, URINE CALCIUM EXCRETION AND STONE FORMATION DYNAMICS IN PATIENTS WITH IDIOPATHIC HYPERCALCIURIA- PRELIMINARY REPORT



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INTRODUCTION

Idiopathic hypercalciuria is known as a most frequent metabolic background of urolithiasis. The disease occurrence is now growing and so can be treated as civilization problem. Urolithiasis affects about 2% of European children. Many hypercalciuric patients demonstrate a reduction in bone mineral density. They often eat insufficient amount of calcium and avoid vitamin D. Furthermore, because of western countries climate conditions, population as a whole lacks vitamin D. In recent years vitamin D deficiency is linked not only to bone disease but to many other disease states. In hypercalciuric patients diet with normal calcium amount is recommended but now it is not clear if they should take vitamin D supplements. Publications linking urolithiasis activity and vitamin D supplementation are not numerous.



THE AIM

Preliminary estimation of vitamin D impact on calcium blood level, calcium urinary excretion and activity of stone formation in patients (pts) with idiopathic hypercalciuria, urolithiasis and low vitamin D level.



MATERIAL AND METHOD

Prospective analysis concerning 6 pts (4 boys, 2 girls) aged 11-14 years (average 13) in terms of calcium and 25OHD blood level, urinary calcium excretion (mg/kg/day and Ca/creatinine ratio in morning urine sample) and ultrasonography (US) estimation of new stones formation after 3 and 6 months (m) of vitamin D supplementation (initially 800 IU).

RESULT

Ca blood level

before treatment 9,7 (9,3-10,3); after 3 m 9,8 (9,2-10,1); after 6 m 9,8 (9,1-10,4) mg/dl.

Daily urinary Ca excretion

before treatment- 3,69 (0,42-6,3) mg/kg/d; after 3 m- 3,32 (1,3-5,1) mg/kg/d; after 6 m- 4,16 (0,73-7,06) mg/kg/d.

Ca/creatinine ratio

before treatment- 0,19 (0,03- 0,36); after 3 m 0,13 (0,06-0,21); after 6 m 0,15 (0,08-0,42).

25OHD level

before treatment 13,9 (9,3-28,9) ng/ml; after 3 m 19,7 (11,1- 24,7) ng/ml; after 6 m 22,2 (16,1-32,7) ng/ml.

US

Before treatment small stones in US were seen in one patient, after 3 months and after 6 months there were small stones in the same patient and in another one. They started hydrochlorothiazide therapy and continued vitamin D supplementation.



CONCLUSIONS:

In hypercalciuric patients vitamin D supplementation could intensify calciuria. That fact however is not necessarily a reason to stop supplementation but hypercalciuric patients needs individual therapy planning. We now present preliminary results of the study which intends to apply to about 60 persons with densitometry after 12 and 24 months as well.



Korelacja porządku rang Spearmana - wskaźniki krystalizacji, a badane białka w moczu. Oznaczone wsp. korelacji są istotne statystycznie dla p <0.05

WOJSKOWY INSTYTUT MEDYCZNY