**Clinical and paraclinical evaluations of deficiency rickets**

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In the world Vitamin D deficiency is considered to be a major public health problem1, a high prevalence of vitamin D deficiency was reported. Vitamin D is important during childhood, for calcium absorption as well as for the accumulation and maintenance of calcium in the bones2.

Years ago, because there was no analytical method for dosing vitamin D, the disease was diagnosed using clinical and radiological parameters. Many laboratory techniques have been developed that allow dosing of vitamin D levels, in recent years. At present, 25(OH)D, serum-dosed is the most reliable marker of vitamin D status.

Plasma dosing of 25 (OH)-D is the most accurate marker for assessing the status of vitamin D in the body. This metabolite has a major role in calcium absorption but also in maintaining healthy bones.

The aim of this study was to assess the status of vitamin D among children between 1 month and 3 years in the central region of Romania.

A retrospective study was carried out by analyzing the values recorded in the hospital’s electronic archive following the 25(OH)D dosing taken from 350 children aged ˂ 3 years, admitted to the Children’s Hospital of Sibiu, between January 2018 and January 2019. The 25(OH)-D dosing was performed from the serum, and for measuring concentration, an ELFA-type immunoassay test was used on a Vidas PC analyser, BioMerieux, France. The results were classified into 3 categories: patients with concentration 25(OH)D > 30 ng/ml (optimum), patients with concentration 25(OH)D levels ranging from 20 to 29 ng/ml (insufficiency) and patients with concentration 25(OH)D levels <20 ng/ml (deficiency). The calcium, phosphorus and alkaline phosphatase concentrations were measured by spectrophotometric methods using the Architect c4000 analyzer.

25(OH)D deficiency it was registered in 38.2% of children and insufficient levels of vitamin 25(OH)D in 33.8% of children.

In the pediatric population from Romania vitamin D deficiency is increased. By studying the effect of this vitamin on bone health, it was possible to establish the optimal level of vitamin D in the body2.

In recent years, in addition to measuring the concentration of vitamin D, a method measuring the ultrasonic osteodensimeter (QUS) is used. This, measures mineral density and bone hardness based on the measurement of ultrasound attenuation and the speed of sound; the resulted data are used in calculating the calcaneal bone index.

The low serum levels of 25(OH)-D affect a large number of children, being necessary the implementation of vitamin D supplementation to prevent rickets in children.

**References**

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