

Endocrine and Metabolic Evaluation of Children with Neurodevelopmental Disability

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Introduction: Neurodevelopmental disability (NDD) is a common problem in children health, occurring in 5–10% of the pediatric population.

Aim: To evaluate the endocrine and metabolic complications described in patients with NDD.

Material and method: Children with NDD, aged below 9 years old, admitted to 1st Pediatric Clinic of Children Emergency Hospital, Timisoara, Romania, between January 2014-March 2016 were included in this study. Their evaluation was complex and included a detailed medical history, clinical and anthropometric evaluation, Tanner stages, multiple serum analyses and sophisticated imagistic investigations.

Results: A total of 15 children (53.33% boys) diagnosed with NDD, with a mean age of 6.5±1.9 years were eligible for this study. The main complaints were developmental delay (93.33%) and developmental regression (6.67%). Cerebral palsy was the most common clinical syndrome (60%), being caused mostly by perinatal hypoxic-ischemic encephalopathy (55.56%) and prematurity with intraventricular haemorrhage (33.33%). Metabolic disorders were diagnosed in 13.33% of them (1 with phenylketonuria and 1 with renal tubular acidosis), while 1 had clinical manifestations of neurodegenerative disorders (X-linked adreno-leukodystrophy). Severe malnutrition was encountered in 66.67% of them and short stature in 60%. The main metabolic factors responsible for atraumatic fractures are presented in Figure no.1. In almost one third of cases, these were encountered especially in patients with seizures treated with an association of two (50%) or more anticonvulsivants (33.33%) and difficulty feeding problems (66.67%). In Figure no. 2 are presented the endocrine disorders associated in our patients.

Figure no.1-Metabolic factors responsible for fractures

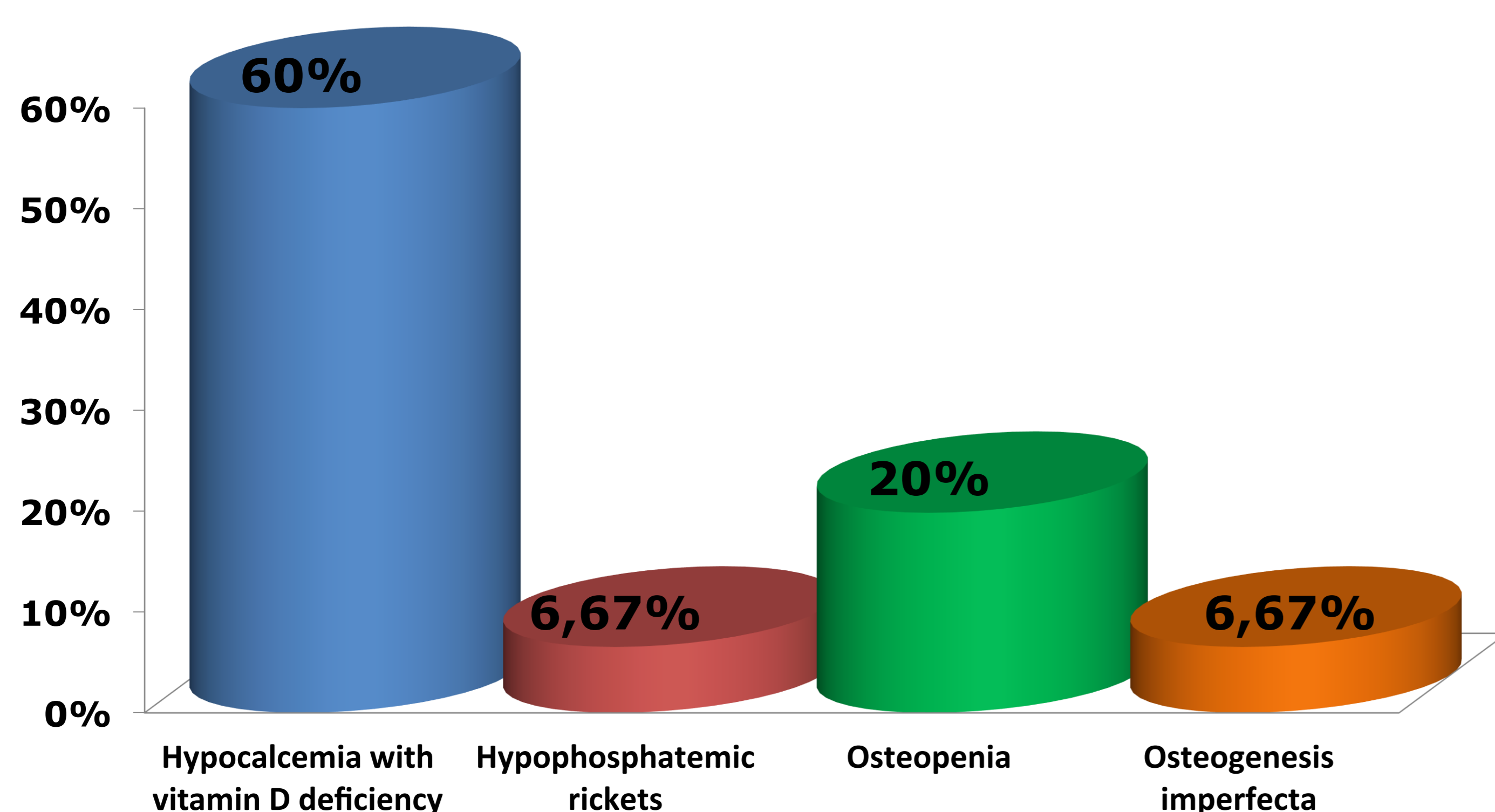
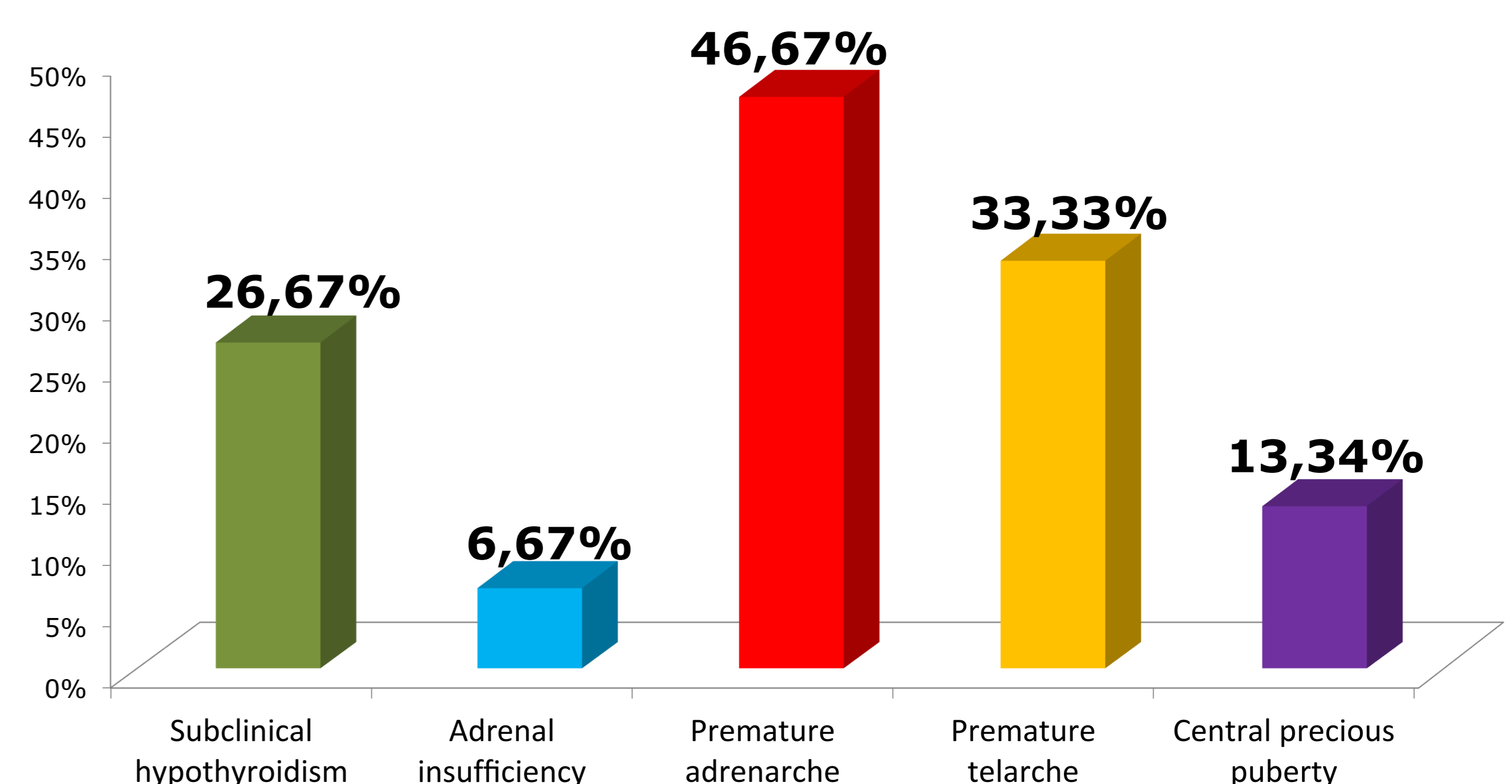


Figure no. 2-Endocrine disorders associated



Conclusion: Evaluation endocrine and metabolic complications in patients with NDD is essential and helps for appropriate rehabilitation, family counseling and management of these associated medical conditions.

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