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### INTRODUCTION

Pseudohypoparathyroidism (PHP) encompasses a heterogeneous group of clinical entities caused by a defect in the peripheral action of parathyroid hormone (PTH). Biochemically it manifests itself with hypocalcemia, hyperphosphatemia and elevated parathormone (PTH). PHP-Ia is the most frequent form and it associates multiple hormone resistance, signs of Albright hereditary osteodysfrosy (AHO) and mutations in the gene encoding GNAS Gsa protein

**CLINICAL CASE:** 6 years old male suffering an episode of ataxia, incoordination and motor and mental slowing

- Family history: mother with short stature (150 cm height), normal phenotype. Healthy father, 166 cm height. No siblings.
- Personal history: preterm with normal birth weight. Neonatally he presented hypoglycemia, early jaundice and congenital hypothyroidism, starting levothyroxine in the third week of life.

From the 4th month of life, weight gain and head circumference growth, from percentile 3 to percentile 95. Highlights of all studies performed: abnormal liver tests and cortico-subcortical atrophy with ventriculomegaly

Karyotype and subtelomeric study were normal. Gigantism syndroms were discarded

### Evolution:

- Rough phenotype, brachydactyly, umbilical hernia, obesity and macrocefalia (see figures 1 to 4)
- Psychomotor retardation
- Euthyroid with replacement therapy
- At the age of 5.5 years he is diagnosed of possible benign childhood epilepsy after having 2 seizures and suggestive electroencephalogram (EEG) (figure 7). Valproic therapy is started.
- At the age of 6 years, episode of ataxia, incoordination and slowing.
- Highlights: Ca 4.6 mg/dl (ionic 0.67 mmol/l), P 10.8 mg/dl, Mg 1.3 mg/dl, iPTH 689 pg/ml, calciuria 0, fosfaturia high
- Radiologically, bone hyperlucency, thinned cortical and correlation with chronological age (figure 8)
- For suspected PHP IA by metabolic disorders and AHO phenotype, calcium and calcitriol therapy is initiated.
- The genetic study, showed deletion of 4 nucleotides in heterozygosity in exon 10 (c.568\_571 of) the GNAS1 gene (20q13.2 Cr). Mother heterozygous carrier of the mutation, *de novo*



Figure 1



Figure 2



Figure 3

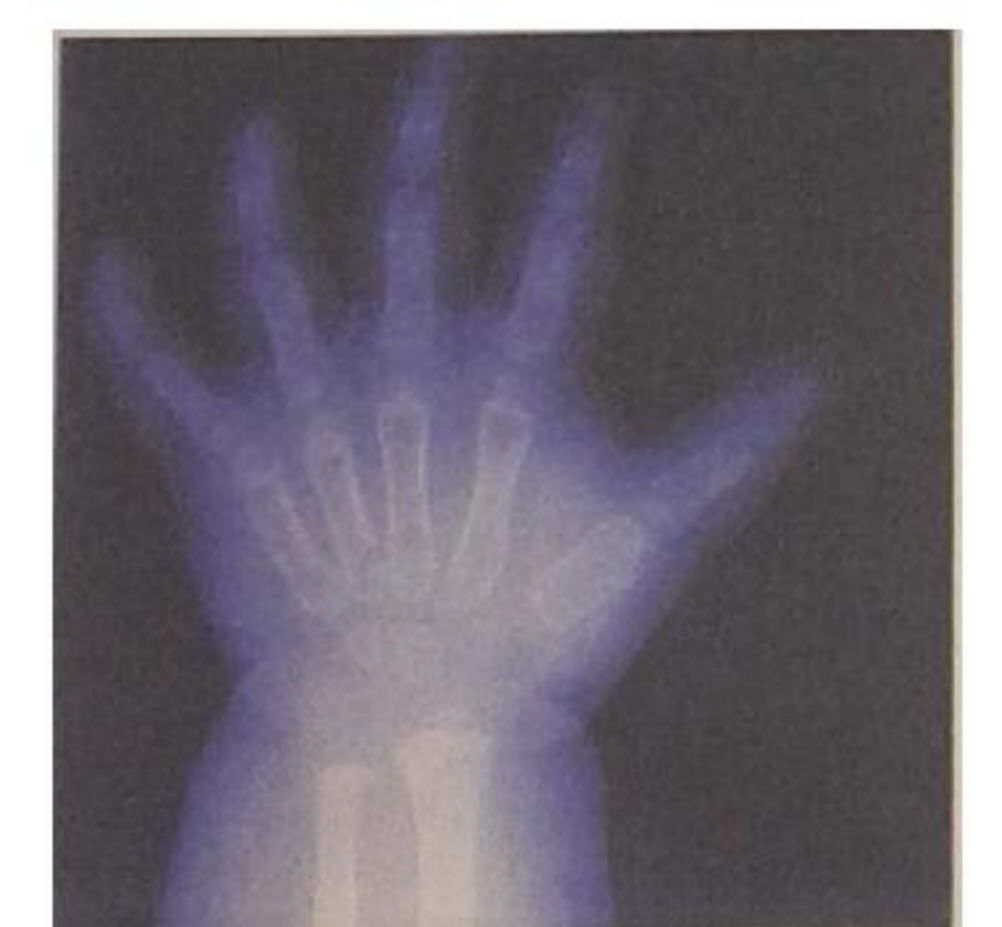


Figure 4

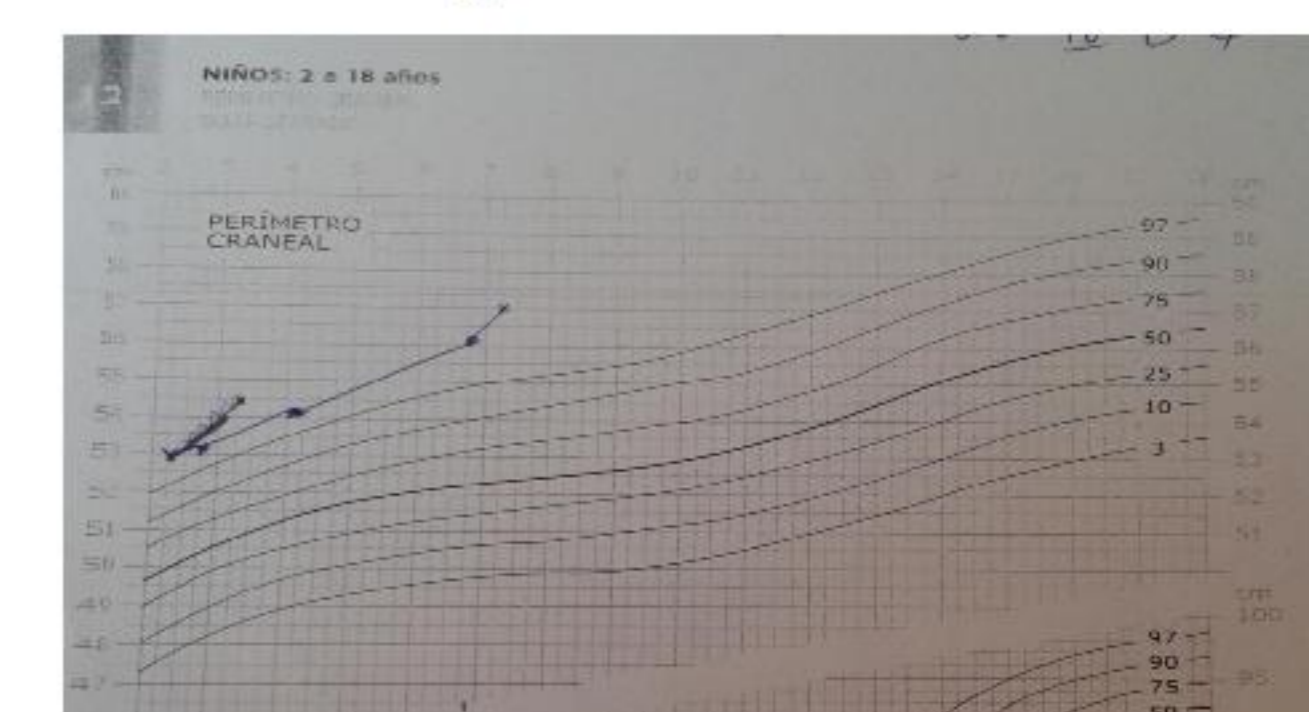


Figure 5

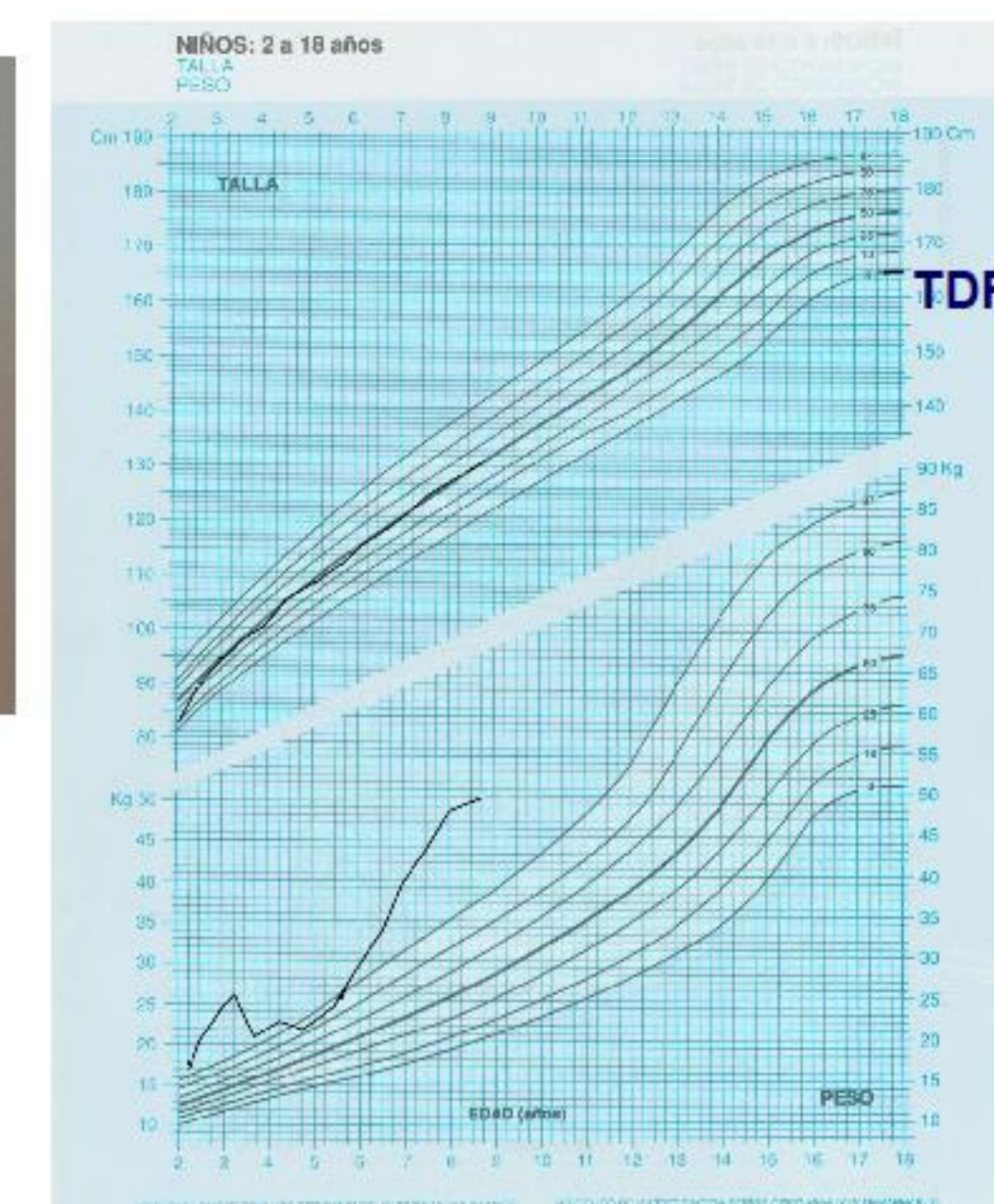


Figure 6



Figure 8

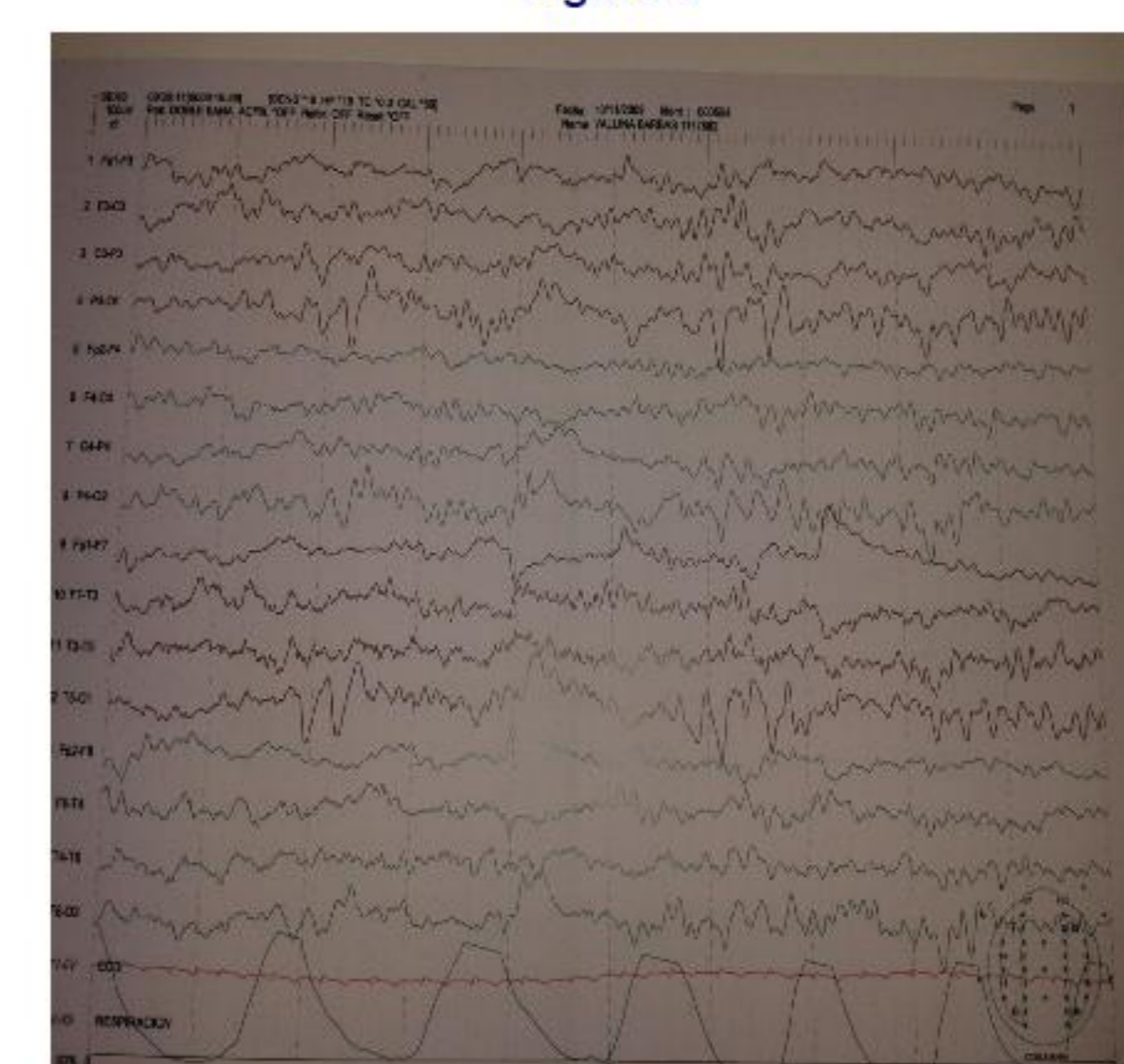


Figure 7

Focality irritant in left occipital region, on a regular route for their age

### CONCLUSIONS:

- 1) In a child with seizures or acute neurological symptoms, metabolic disorders should be ruled out. These may be responsible for a pathological EEG recording, as in our patient; EEG and clinical standards normalize when calcium and phosphorus metabolism were normalized.
- 2) In the PHP-IA various alterations in the GNAS locus determine variable phenotypes, and possibly combined with other hormones so these patients should be screened globally resistance. Our patient presented Albright phenotype and resistance to PTH and TSH.