

# Transient Neonatal Hypoparathyroidism Secondary to an Unknown Maternal Parathyroid Adenoma

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## INTRODUCTION

Transient neonatal hypoparathyroidism (hPT) by inhibition of fetal parathyroid secondary to undiagnosed asymptomatic hyperparathyroidism (HPT) in the mother, often debuts as late neonatal seizures.

## OBJETIVE

To emphasise the indication of maternal metabolic study (Calcium-Ca-, Phosphorus-P- and parathormone-PTH) in addressing late neonatal hypocalcemia, especially in the case of late neonatal hypocalcemic seizures

## CLINICAL CASE

**New born:** We report the case of a male new born, the result of pregnancy and childbirth without incident. He presented partial seizures on the 9th postnatal day. He received calcium gluconate infusion and magnesium. Seizures last for 24 hours.

Complementary exams:

- Blood test: hypocalcemia (5.4 mg/dL) and hypomagnesemia (1.2 mg/dL). PTHi in lower limits of normal condition (15 pg/mL).
- Cranial ultrasound: normal
- Electroencephalogram: normal
- Initial treatment: calcium gluconate infusion and magnesium
- Evolution: He received oral contributions of calcium, magnesium and cholecalciferol until complete metabolic normalization at the 4th month of life (see Figure 1).
- The study extends to the mother

**Mother:** Mother of 33, second pregnancy, healthy, two episodes of renal colic. No previous fosfocalcic metabolism control

- Blood test (see Figure 2):
- Calcaemias between 10.2-10.6 mg/dL
- P y Mg: normal
- PTHi: high (between 95-113 pg/mL)
- Hypercalciuria
- Imaging studies:
- Parathyroid ultrasound: left higher adenoma of 2,5 cm (see Figure 3)
- Parathyroid scintigraphy Tecnecium 99: from the beginning, rounded radiotracer accumulation above the upper pole of the left thyroid lobe (see Figure 4)
- Video-assisted parathyroidectomy is performed with subsequent analytical standardization.

	New born	9 th day	9,5 th day	10 th day	11 th day	12 th day	16 th day	18 th day	22 th day	1 month	2 nd month	3 rd month	4 th month	6 th month
Ca (N 8.4-10.7 mg/dL) / Ca <sup>++</sup> Corrected Calcium	6.9	5.4 6.4	6.7 7.6	5.9/5.77 6.9	6.4 7.5	7.8/1 7.5	7.8 8.7	8.1/2	8.2/2	8.2/2.2	7.4/2.1	7.2/2.1	7.3/2.1	5.9/2.1
P (N 2.7-4.5 mg/dL) / Mg (1.6-2.6 mg/dL)		1.2 1.2	1.2	1.2	1.4	1.6	1.2	1.2	1.2	1.2/2.2	1.4/2.1	1.2/2.1	1.3/2.1	1.5/2.1
PTHi (N 15-65 pg/mL)				15						47	58	27		18
1-25 VITD3 (N 15-65 pg/mL)				73						105	138	89		110
1,25 VITD3 (N 10-68 ng/mL)				9						11.6	20.9			41.4
Treatment		Ca and Mg iv (bolus and infusion)	Ca and Mg iv	Ca and Mg iv	Ca + Mg + oral vit D	Ca + Mg + oral vit D	Ca + Mg + oral vit D	Ca + Mg + oral vit D	Ca + Mg + vit D	Ca + Mg + vit D	↓ Ca, Mg and vit D	↓ Ca y vit D, Mg cancelled	Se suspende: Ca y vit D	Sin tratamiento

Figure 1 Analytical and therapeutic evolution of the new born

Figure 2

	18 days after childbirth	1 month after childbirth	2 months after childbirth	4 months after childbirth
Ca (N 8.4-10.2 mg/dL) / P (N 2.7-4.5 mg/dL) / Mg (1.6-2.6 mg/dL)	10.5/3.5/1.8	10.2/2.7/1.9	10.6/3.2/2	10.2/2.6/2
PTHi (N 15-65 pg/mL)		113	95	106
1-25 VITD3 (N 15-65 pg/mL)		32	72	
25 VITD3 (N 10-68 ng/mL)		9	12	14.7
Calciuria		350 mg/24 hours		



Figure 3



Figure 4

## CONCLUSIONS

1) In a late neonatal hypocalcemia, the study of maternal calcium-phosphate metabolism is required since the mother HPT is usually asymptomatic in most cases and usually manifests as late neonatal seizure. 2) The diagnosis of a maternal hypercalcemic HPT is simple, whereas the diagnosis of HPT with normal-slightly elevated Ca and normal P such as we present is more unusual. Late neonatal seizures may be the first expression of an undiagnosed maternal parathyroid adenoma, so the study of an apparently healthy mother is a benefit for both. 3) The therapeutic approach of a transient neonatal hPT includes contributions of Ca and vitamin D and frequently Mg due to associated lack. The metabolic evolution is standardization in a few weeks