

PRIMARY HYPERPARATHYROIDISM: A CAUSE OF METABOLIC SYNDROME IN CHILDREN?

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Medical history:

- premature baby- born at 33 weeks of gestation, weight of 2700gr
- obesity- since childhood

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B.B.G., 15 years old, male

Endocrinology department of the Elias Hospital:

Motives of admission:

- Obesity
- High blood pressure (max BP of 180mmHg)

Clinically:

- height of 1.80m and a weight of 108kg, with a BMI of 33.33kg/m² at the 99th centile, obese(BMI=33.33 kg/m²), Z score of +2.32DS
- round facies with erythema
- abdominal obesity with red striae
- a BP of 180/100mmHg and a HR of 78/minute
- Tanner stage P5G5with.

Biologically:

Glycaemia	94mg/dl(70-110)
HbA1c	5.9%(4.8-5.6)
Uric acid	7.9mg/dl(4-5.2)
HDL cholesterol	36mg/dl(>50)
Calcium-serum	12.4mg/dl(8.5-10.0)
Insulinaemia	60.3mIU/ml(3-15)

Hormonally:

TSH	1.58mIU/ml(0.46-4.8)
Cortisole(after 1 mg Dexamethasone)	<1mcg/dl
Methanephrines serum	31pg/ml (<90)
Normethanephrines	132.pg/ml(<190)
Aldosterone/Renine ratio	1.3(<3.7)
PTH	166pg/ml(15-50)
25OHvitamineD	20ng/dl(>30)

Cervical sonogram:solid image on the posterior side of the left lobe of 1.4/0.8 cm which was consistent with a parathyroid adenoma.

Abdominal CT: normal

Renal arteries sonogram: normal.

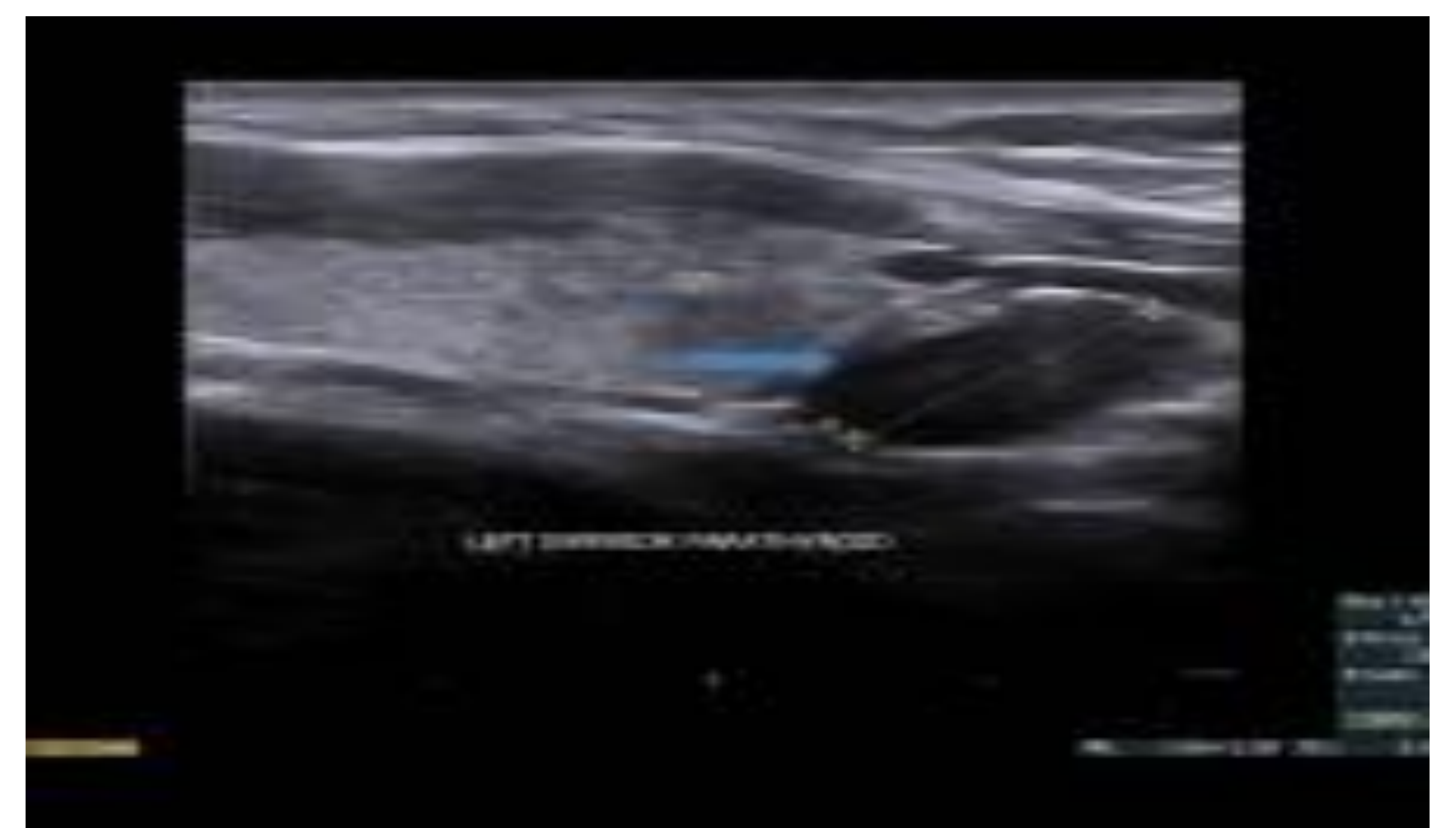
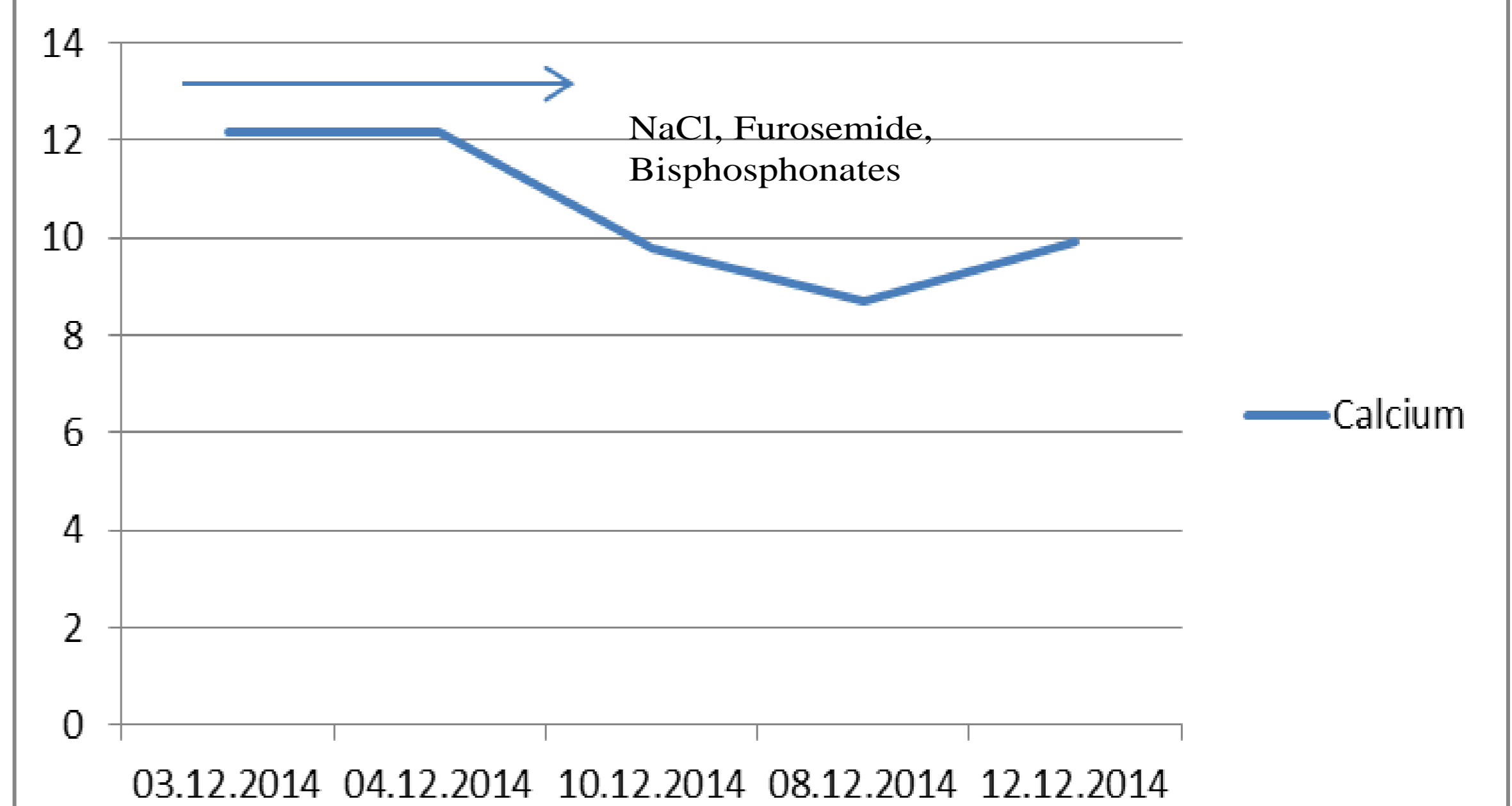
Diagnostic:

- Primary hyperparathyroidism due to a left parathyroid adenoma
- Secondary hypertension
- Obesity
- Metabolic syndrome due to the obesity and primary hyperparathyroidism

Treatment:

- volume repletion (isotonic sodium chloride solution) and iv loop diuretic
- bisphosphonates iv- Ibandronic Acid
- surgery

Calcium evolution



Neck ultrasound: left parathyroid adenoma

Discussions and conclusion:

- The favorable outcome after surgery confirmed not only the diagnosis of primary hyperparathyroidism but also the link between the metabolic syndrome, high blood pressure and this condition, with high cardiovascular morbidity and mortality.

