PANCREATITIS IN FAMILIAL HYPOCALCIURIC HYPERCALCEMIA (FHH)

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OBJECTIVES

Familial hypocalciuric hypercalcemia (FHH) is a characteristically asymptomatic condition that is caused principally by calcium sensing receptor gene (CaSR) mutations and less frequently by GNA11 or AP2S1 mutations. We report a case of recurrent symptomatic pancreatitis in an FHH patient.

METHODS

- > presentation: 17-year-old patient hospitalized with abdominal pain and raised pancreatic enzymes due to acute pancreatitis. This represented his 3rd episode of acute pancreatitis requiring hospitalization in different institutions.
- > biological results: very elevated serum calcium level (3.2 mmol/L; NR: 2.15-2.60), moderately elevated PTH (339 ng/L; NR: 4-26), normal 25-OH vitamin D (44 pg/ml; NR: 30-80), elevated 1,25(OH)2 vitamin D (133 pg/ml; NR: 23-109) and undetectable urinary calcium.
- > sole predisposing factor for the pancreatitis: the severe hypercalcemia
- > imaging exams: absence of renal lithiasis or calcifications elsewhere; parathyroid glands could not be visualized on thyroid ultrasound.
- > severe bone mineralization deficit of the cortical bone on bone osteodensitometry: Tscore lower 1/3 radius -3, total hip -0.1, lumbar -0.5.
- > family history: patient’s grandmother was also known to suffer from hypocalciuric hypercalcemia
- > hypercalcemia had been found in the patient’s mother, uncle, brother and sister
- > however, none of the other family members with severe hypercalcemia, except for the mother who had chronic pancreatitis, associated pancreatic disease.
- > genetic analysis: sequencing of CaSR and, in order to explain our patient’s phenotype, analysis of genes involved in the pathogenesis of idiopathic pancreatitis.
- > treatment: the calcimimetic cinacalcet was started at 30mg daily, later increased to 30mg twice daily.

RESULTS

Cinacalcet treatment lowered serum calcium to 2.95 mmol/l.

CONCLUSIONS

We present the case of a young patient with a severe FHH phenotype caused by an inactivating mutation of the CaSR gene with a dominant negative effect. This mutation leads to the most severe level of hypercalcemia reported in the literature in adult patients. When associated with other factors predisposing to pancreatitis, such as mutations of SPINK1 gene as in our case, recurrent pancreatitis can occur. These episodes can be avoided by the control of hypercalcemia. Although FHH generally does not require therapy, treatment of our patient with the calcimimetic compound Cinacalcet proved beneficial.

References