A rare cause of childhood hypercalcemia: Parathyroid adenoma

Havva Nur Peltek Kendirci[1], Atakan Comba[2], Gül Doğan[3], Nurcan Coşkun[4]
[1]Hitit University, Faculty of Medicine, Pediatric Endocrinology Clinic, Çorum, Turkey
[2]Hitit University, Faculty of Medicine, Pediatric Gastroenterology Clinic, Çorum, Turkey
[3]Hitit University, Faculty of Medicine, Department of Pediatric Surgery, Çorum, Turkey
[4]Hitit Unıversity Erol Elcok Training and Research Hospital, Department of Pediatric Surgery, Çorum, Turkey

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INTRODUCTION

Primary hyperparathyrodism (PPH) is rarely seen in childhood and usually diagnosed in adulthood. It appears due to increased parathormone synthesis in one or more parathyroid glands. Incidence is 2-5/100000 in childhood and 1/1000 in adulthood.

Hypercalcemia associated symptoms are observed in 73-94 % of children with primary hyperparathyroidism during diagnosis. Because of nonspesific syptoms in childhood and episodic hypercalcemia during early stages target organ disorders such as nephrocalcinosis, nephrolitiasis, acute pancretatitis and bone involvement are more detected. Because of all these reasons early diagnosis and effective treatment of disease is very important in prevent from target organ disorders.

AIM

We aimed to present a pediatric case with parathyroid adenoma.

CASE

A 14 years and 7 months old girl complaining of constipation applied to pediatric gastroenterology department was consultant to pediatric endocrinology department due to increased plasma calcium levels. She was healthy previously and had no vitamin D usage. In her physical exam; body weight: 53.8kg (-0.12 SD), height: 153,5cm (-1.32 SD), BMI: 22.83kg/m^2(0.74 SD), blood pressure:90/60mmHg and puberty was Tanner Stage-5. Other systemic exams were normal. In laboratory detection; plasma calcium:12.7mg/dL(8.8-10.6), phosphorus:3.0mg/dL(4.5-5.5), PTH:306pg/ml(15-68), alkalen phosphotase:168U/L(30-500), spot urine Ca/creatinin:0.21 and 25-hydroksivitamin-D:4.9ng/ml(N>20). Hemogram, venous blood gase detection, plasma free thyroxin, Tyrotropin releasing hormone, BUN, creatinin, albümin and magnesium levels and QTc time in electrocardiogram were normal. Via these data she was diagnosed as primary hyperparathyroidism and initial intravenous hidration and furosemid treatment started. Plasma calcium levels did not decrease after initial treatment and she had pamidronat infusion with the dose of 0,8mg/kg/day, twice and plasma calcium levels decreased to normal levels in 48 hours time. X-Ray detections of hand-ankle and head, urinary ultrasonography was normal. Thyroid USG revealed an image next to posterior-inferior right thyroid lobe, with dimensions of 12x4.5 mm, smooth borders and central hyperechogen identation which suggests a parathyroid adenoma. Teknesyum-99m sestamibi (99mTc MIBI) scintigraphy revealed an extra thyroid, partially hypoechoic lesion in right thyroid inferior region next to posterior thyriod capsule with dimensions of 10x8x10 mm. The patient was operated with the diagnose of parathyroid adenoma. Postoperative plasma Ca was 11 mg/dL, and PTH: 378 pg/ml. Pathological examination was normal parathyroid tissue and she underwent second surgery. After reoperation plasma Ca was 9.6 mg/dL, and PTH: 25 pg/ml. Pathological examination was concordant with parathyroid adenoma.

DISCUSSION

PHP cases in adulthood are 80% aympthomatic and diagnosed incidentally. Most of the PHP cases in childhood apply with hypercalcemia associated symptoms. Polyuria, polydipsia and constipation are initial significant symptoms in older children.

One of the important properties of childhood PHP is more findings of target organ disorder initially. 90-100% of the cases reveals hypercalciuria, 27-92% bone involvement, 36-75% nephrolitiasis,in frequent ,respectively.

Standard treatment of parathyroid adenoma is surgical resection of adenoma. Plasma calcium levels decreases to normal levels in 95% of cases treated surgically. Intraoperative PTH measurement enables minimally invasive parathyroidectomy. 10% decrease in 10th minute or more than 60% decrease 20th minute postoperatively shows effective parathyroidectomy.

CONCLUSION

Although is very rare in childhood, parathyroid adenoma should be keep in mind in patients with hypercalcemia and no history of vitamin D usage. Early diagnose and treatment is important because late diagnose may result irreversbl target organ damages.

CONTACT INFORMATION

drhnpeltek@yahoo.com