An unusual case of impaired renal function and thrombocytopenia

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INTRODUCTION

Autoimmune thyroid disease can be sometimes associated with decreased renal function and other autoimmune disorders as well.

CASE REPORT

B.A., F. 17 years old

March 2016 - referred to our endocrine department for evaluation of hypothyroidism

TSH=150mcU/ml, FT3=0.0pg/ml, FT4=0.1ng/dl

Medical history

²Feb 2015: investigated for severe fatgability and myalgia - diagnosed with thrombocytopenia (85,000/mm³) treated with Ferrogradumet and Medrol

²Nov 2015: severe menometrorrhagia (Hb=4.5 g/dl) oral contraceptives

²After the vaginal bleeding her creatinine doubled and the patient was referred to the nephrologist.

Workup

Abdominal ultrasound: completely normal organs

- all the causes for thrombocytopenia and elevated creatinine were excluded (domestic and drugs toxicity, viral infection, autoimmune) and the platelet autoantibodies were negative

- because of the elevated thyroid antibodies she was referred to the endocrinologist.

ENDOCRINE EVALUATION

Physical examination

- H=156.6 cm (-1.3 SD), W=45.5 kg
- pale, dehydrated skin, mixedema
- hoarseness, slurring of speech

Laboratory tests

- moderate thrombocytopenia (7000/mm³)
- elevated creatinine (1.4mg/dl) - eGFR=67ml/min/1.73m²
- normal blood urea (52mg/dl)
- elevated creatininosise (CK=1309U/ml)
- moderate dyslipidemia (C=342 mg/dl, TG=247 mg/dl)

Hormonal profile

- TSH=75mcU/ml (0.4-4.4 U/l/ml)
- TT3=40ng/dl (77-135 ng/dl)
- FT4=0.3ng/dl (0.89-1.76 ng/dl)

Thyroid ultrasound: small thyroid gland with a heterogeneous echotexture, decreased flow at color Doppler

Echocardiography showed poor left ventricular performance and decreased rate of ventricular diastolic relaxation

DISCUSSION

A diagnosis of severe autoimmune hypothyroidism with myopathy was made and the elevated creatinine was thought to be secondary to excessive production rather than impaired renal function as the blood urea was normal.

The associated thrombocytopenia had probably autoimmune etiology, though the platelet antibodies were negative. Substitutive treatment with levothyroxine was started.

FOLLOW-UP

June 2016

- TSH=1.82 uU/ml (0.4-4.4 U/l/ml)
- TT3=128 ng/dl (77-135 ng/dl)
- FT4=1.20 ng/dl (0.89-1.76 ng/dl)

After complete substitution of hypothyroidism with levothyroxine (replacement therapy 100mcg L-T4/d) the patient had a normal lipid profile (C=196 mg/dl, TG=65 mg/dl) and normal CK (37 UI) and the glomerular filtration rate improved (93.37 ml/min/1.73 m²)

CONCLUSIONS

Acquired hypothyroidism should be considered in the differential diagnosis of kidney dysfunction and myopathy that presents with muscle pain, muscle hypertrophy, and elevated creatinine kinase levels.

Restoration of euthyroidism leads to resolution of renal impairment and alleviates the symptomatology in a short time.

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