

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=150mIU/ml, FT3=0pg/ml, FT4<0.1ng/dl

Medical history

✦ **Feb 2015**- investigated for severe fatigability and myalgia
- diagnosed with thrombocytopenia (85.000/mm³)
treated with Ferrogradumet and Medrol

✦ **Nov 2015**- severe menometroragya (Hb=4.5 g/dl) oral contraceptives

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

Workup

Abdominal ultrasound: completely normal kidneys

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

Platelet and HLA antibodies			
GP IIb/IIIa	HPA - 1a/1a		
	HPA - 3a/3a	0.072/0.150	NEGATIV
	HPA - 4a		
	HPA - 1b/1b		
	HPA - 3b/3b	0.090/0.197	NEGATIV
GP Ia/IIa	HPA - 4a/		
	HPA - 5b/5b	0.061/0.151	NEGATIV
GP Ib/IX	HPA - 5a/5a	0.076/0.160	NEGATIV
		0.052/0.081	NEGATIV
GP IV		0.129/0.240	NEGATIV
HLA		0.093/0.237	NEGATIV

FwW	35	50-160%
LA R	0.99	0.8-1.2
LA2	15	30-38s
APTT	32.3	23-36 sec
INR	1.12	0.7 - 1.2
Fibr	231	200-400 mg/dl
F VIII	48%	50-140%
F VIII	78%	>70%

Anti-B2-Glycoprotein screen	2.2	N
Anti-HSV-2 IgG	1	N
Anti-HSV-2 IgM	1.4	N
Ag.HBs	<0.1	N
antiVHC	0.07	N
CMVIGG	<0.7	N
CMVIGM	0.34	N
HIV	0.29	N
Rube_IgM	0.1	N
RubIgG	78.2	>10 +
ATPO	>3000IU/ml	<34
Anti TG	392 IU/ml	<12
ANA	0.2	N
Anti AND Dc	2.2	N
Anti C1q	0.9	N
Anti MPO[p ANCA]	0.7	N
Anti Sm	1.2	N
FR	1.3	N
Anti GBM	3.2	N
Nucleoso	3.7	N
RNP/Sm	0.1	N

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

CONCLUSIONS

Acquired hypothyroidism should be considered in the differential diagnosis of kidney disfunction 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.

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 (70000/mm³)
- ✦ elevated creatinine (1.4mg/dl)- eGFR=67ml/min/1,73m²
- ✦ normal blood urea (52mg/dl)
- ✦ elevated creatin kinase (CK=1309UI/ml)
- ✦ moderate dyslipidemia (C=342 mg/dl, TG=247 mg/dl)

Hormonal profile

- ✦ TSH>75mIU/ml (0.4-4.4 uIU/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 uIU/ml (0.4-4.4 uIU/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 U/l) and the glomerular filtration rate improved (93.37 ml/min/1.73 m²)

REFERENCES:

1. Naz A, *Rhabdomyolysis and acute renal impairment in a patient with hypothyroidism: a case report*. Case Rep Med 2014
2. El Ters M, *Hypothyroidism and reversible kidney dysfunction: an essential relationship to recognize*. Endocr Pract 2014
3. Vikrant et al., *Hypothyroidism presenting as reversible renal impairment: an interesting case report*, Ren Fail 2013
4. Bonilla Abadia, *A rare association of localized scleroderma type morphea, vitiligo, autoimmune hypothyroidism, pneumonitis, autoimmune thrombocytopenic purpura and central nervous system vasculitis*. Case report. BMC Res Notes, 2012
5. Madariaga MG, *Polymyositis-like syndrome in hypothyroidism: review of cases reported over the past twenty-five years*. Thyroid 2002
6. Oden A et al., *Association of Van Wyk Grumbach and Debre Semelaigne Syndromes with Severe Hypothyroidism*. J Pediatr Adolesc Gynecol 2015

