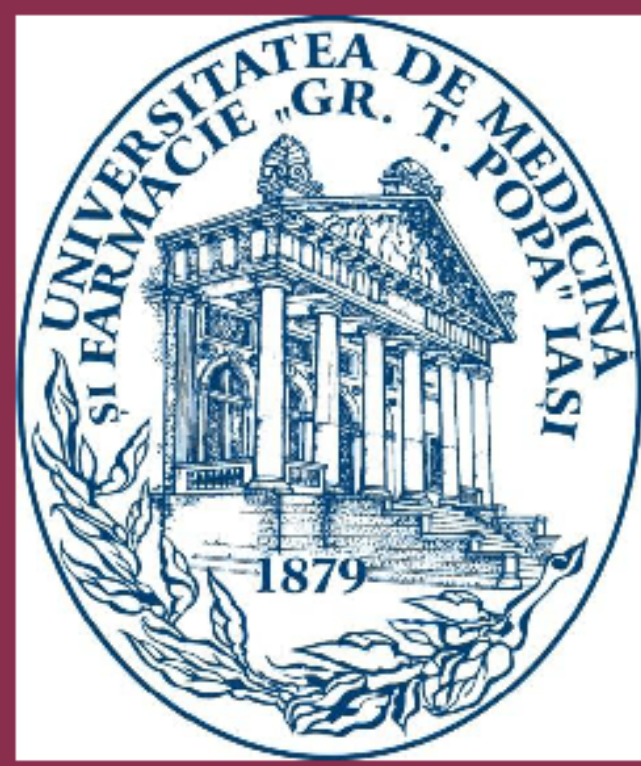


# LATE ONSET OF A RARE AUTOIMMUNE ASSOCIATION – COELIAC DISEASE AND HASHIMOTO'S THYROIDITIS – HORMONAL AND METABOLIC IMPLICATIONS

## CASE REPORT



Mirela Puiu<sup>1</sup>, Adina Manolachie<sup>1</sup>, Ioana Vasiliu<sup>1</sup>, Jeanina Idriceanu<sup>1</sup>, Ioana Bodescu<sup>1</sup>, Radu Popa<sup>2</sup>, Elena Gologan<sup>3</sup>, Carmen Vulpoi<sup>1</sup>

1 – Department of Endocrinology, 2 – Department of Vascular Surgery, 3 – Department of Gastroenterology  
University of Medicine and Pharmacy "Grigore.T. Popa" – Iasi, Romania



### Introduction

#### \* Thyroid diseases in patients with celiac disease

In patients with CD, increased prevalence of:

##### ● Autoimmune thyroiditis:

thyroid peroxidase antibodies in CD:

- 29.7%, 14 out of 47 patients
- 2 had mild hypothyroidism, 3 – subclinical hypothyroidism
- healthy controls - 9.6%

##### ● Thyroid dysfunction:

- thyrotoxicosis occurred in 5.0%
- spontaneous hypothyroidism in 5.8% of the celiac patients

104 patients with Hashimoto's thyroiditis

184 patients with celiac disease

5 coeliac seropositive and HLA-DQ2 positive patients with Marsh III were diagnosed with coeliac disease

22 thyroid seropositive patients with over hypothyroidism were diagnosed with Hashimoto's thyroiditis

#### \* Marsh criteria

#### UPPER JEJUNAL MUCOSAL IMMUNOPATHOLOGY

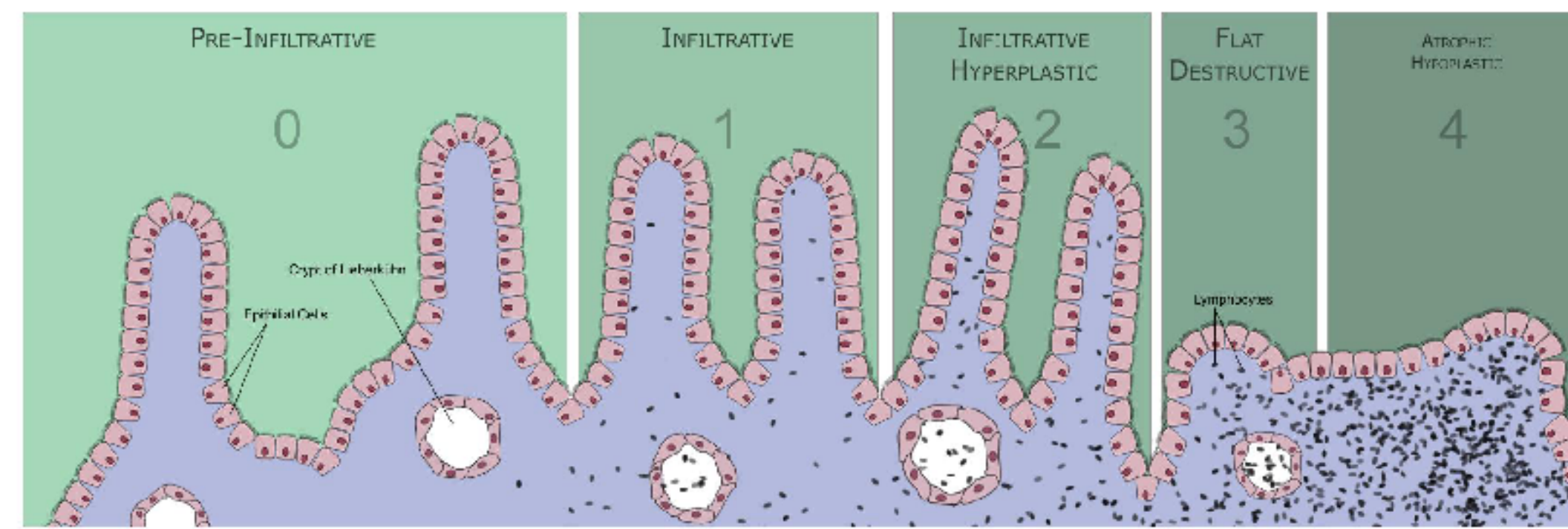


Fig.1: Schematic of the Marsh classification of upper jejunal pathology in coeliac disease

- stage 0: normal mucosa
- stage 1: increased number of intra-epithelial lymphocytes > 20 /100 enterocytes
- stage 2: proliferation of the crypts of Lieberkuhn
- stage 3: partial or complete villous atrophy
- stage 4: hypoplasia of the small bowel architecture

#### \* Celiac disease

- Weight loss, malnutrition, metabolic deficiencies
- Associated with cancer
  - small-bowel, lymphoma, esophageal
- Different presentations
  - Obvious – diarrhea, malabsorption
  - Subtle – bloating, weight loss, low iron, metabolic bone disease
- Endocrine consequences
  - Amenorrhea, infertility
- Dermatitis herpetiformis

#### \* Celiac disease and osteoporosis

- CD in 0.9%-3% patients with osteoporosis
- Increased bone resorption
  - overproduction of cytokines IL-1 alpha, IL-1 beta and TNF-alpha
- Accelerated by hyperparathyroidism
  - malabsorption of calcium and vitamin D

Interaction of both these mechanisms activated bone loss

### Case Report

#### \* Patient

- female patient
- 65 years old
- was send to Endocrinology Department for hypothyroidism
- associated severe diselectrolytemia

#### \* Medical history:

- Coronary bypass (with no anticoagulant treatment);
- Hypertension;
- Dyslipidemia;

#### \* Symptoms

- Diarrheic episodes
  - Dec 2012 – transitory
  - Jan 2013 – persistent
- Weight loss
- Asthenia

#### \* Clinical examination

- BMI =17.5 kg/m<sup>2</sup>
- Inferior limb edema
  - More important on the right side

#### \* Investigations

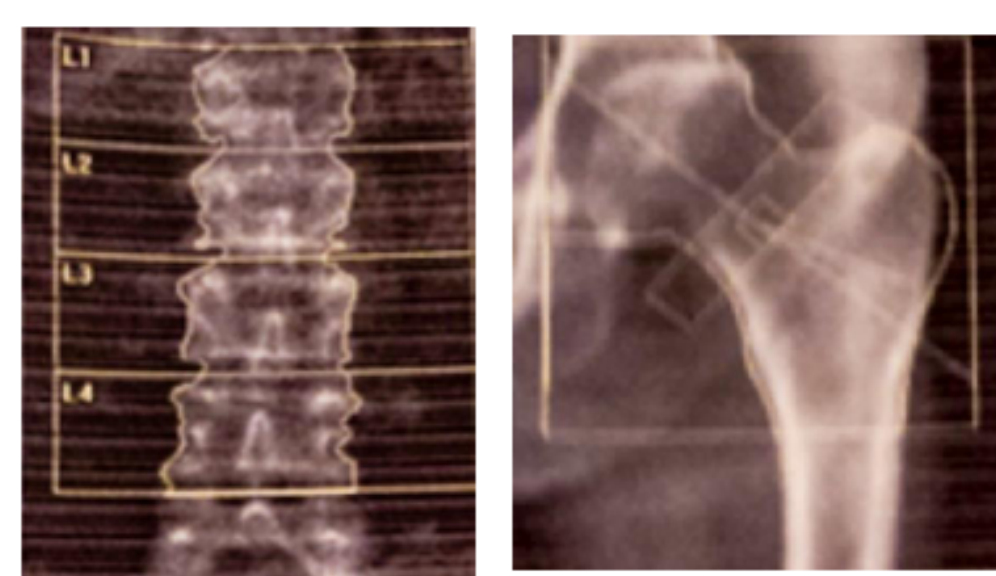
- Colonoscopy – negative;
- Endoscopy revealed gastritis;
- Gastric biopsy – diagnosed chronic antral gastritis;
- Abdominal CT – normal;

#### \* Other data

- Markers for digestive neoplasia and NET - negative
- Negative coproculture
- Patient refused intestinal biopsy

#### \* Laboratory findings and evolution:

Parameter	Normal values	May 2013	September 2013	March 2014	November 2014
TSH	0.4-4 μU/ml	27	0.4	6.41	10.3
FT4	0.89-1.76 μg/dl	0.65	1.16	1.17	1.10
ATPO	<100 UI/l	>1000	-	-	>1000
ATg	<50 UI/l	>3000	-	-	>3000
IgG ANTI TTG	<18 ng/ml	168	-	-	-
Anti-endomisyal Ab	< 20 AU/ml	7.6	-	-	-
25(OH)D3	> 30 ng/ml	< 3	21.54	-	22.47
Proteine totale	64-83 /l	42 (albumin 1.64)	69	72	78
Ca total	8.40-10.20 mg/dl	6.76 ↗ 8.64 (Ca <sup>++</sup> - 1.01 mmol/l)	9.90	8.78	9.23
Mg	1.60-2.60 mg/dl	1.3	1.70	1.77	2.13
Na	136-145 mmol/l	134	138	140	142
K	3.5-5.1 mmol/l	2.5	4.2	4	4
Fe	50-170 mg/dl	39	59	11.1	11.7
Hb	11.7-16 g/dl	10	12	11.1	11.7
BMI	18-24 kg/m <sup>2</sup>	17	20.5	24.24	24.6



#### BMD/DXA:

- T-score spine = -4.5
- T-score femoral neck = -4.6

#### Vascular surgery examination

- profound thrombosis
- treatment with acenocumarolum
- INR: 1,37 ↗ 7,32 -reducing dose at 1 mg → 14 (N:0,8-1,25)

Heparin pump – normalization of INR  
Clopidogrelum, well tolerated

#### \* Treatment

- ✓ Gluten-free diet
- ✓ L-thyroxine 50 ug/d, now 100 ug/d
- ✓ Vitamin D 1000 U/d
- ✓ Mg, Ca
- ✓ Iron
- ✓ Bisphosphonates

### Discussions

- Patients with both autoimmune diseases - **older** than those with coeliac disease only
- Older age at diagnosis of coeliac disease indirectly reflects the **duration of gluten exposure**
- Prolonged duration of gluten exposure in unrecognized patients with coeliac disease might predispose to other autoimmune diseases
- Both diseases can present with **non-specific symptoms** (lethargy, bowel disturbance, anaemia)
- **Pitfalls in the serological screenin**
- Real frequency may be higher
- May the GFD diet be a method of lowering thyroid antibodies?

### Conclusions

- \* Undiagnosed CD associated with TAI may determine severe metabolic disturbances, due to the vicious circle of malabsorption. Low IT4 absorbtion impose attentive substitution dosage.
- \* Most of guides do not recommend systematic search of CD in TAI however, since, as in our patient, CD may be paucisymptomatic and/or with late manifestation, we believe that it may be usefull to search it, if not in all AIT patients at least in those with metabolic disturbances

#### References:

Velluzzi et al, Am J Gastroenterol 1998; Midhagen et al, Scand J Gastroenterol, 1988; Zofková I, Cas Lek Cesk. 2009; Volta U, Digestion, 2001; Ventira A et al, Gastroenterology 1999; Hadhthi M et al, WJG, 2007; [http://en.wikipedia.org/wiki/Coeliac\\_disease](http://en.wikipedia.org/wiki/Coeliac_disease)

