



False Acute Abdomen: Unusual Circumstance Revealing Hyperthyroidism

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Abstract

Introduction: Abdominal symptoms are exceptional and often labeled unusual during thyrotoxicosis. It can be abdominal pain, vomiting or nausea and sometimes even true acute pseudo-surgical abdomen presenting a real diagnostic challenge.

Case Presentation: A 21-year-old woman, with no pathological medical history, was hospitalized in our department because of acute and febrile abdominal pain initially causing suspicion of acute appendicitis. A surgical emergency was ruled out by the surgeons in the emergency room based on clinical, biological, and ultrasound exams. The somatic examination found a febrile patient at 39.5°C and a slightly sensitive abdomen in its entirety without palpable masses or organomegalies. The standard x-ray and abdominal ultrasound showed no abnormalities. The basic biological tests were within normal limits. A genital or digestive infection was also eliminated. Digestive fibroscopy was normal and the immunological balance was negative. Hormonal tests revealed primary hyperthyroidism with TSH at 0.04 μ UI/ml (0.25 to 5) and FT4 at 34.4 pmol/l. Specific etiological investigations of this hyperthyroidism resulted in Graves' disease. Treated with Thiamazole at a dose of 30 mg/day with a beta-blocker, the course was rapidly favorable with a pyrexia and disappearance of abdominal pain. No recurrence has been noted for 3 years now.

Conclusion: As exceptional as it is, this presentation of hyperthyroidism deserves to be known by clinicians to avoid unnecessary and sometimes heavy surgery. Some authors recommend a thyroid screening for any abdominal pain that is not proven, particularly in women and outside pathological gastrointestinal history.

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Keywords: Acute abdomen; Hyperthyroidism; Graves' disease; Thyrotoxic storm

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Introduction

Thyroid disorders are among the most common endocrine diseases, and are characterized by highly polymorphic, sometimes unexpected and unusual clinical presentations [1,2]. Abdominal symptoms are exceptional and often labeled as unusual during thyrotoxicosis [3,4]. It may be abdominal pain, vomiting or nausea and sometimes even true acute abdomen, qualified as "pseudo-surgical abdomen" or "false acute abdomen" and presenting a real diagnostic challenge for clinicians, particularly in emergency rooms [3-8]. We are reporting an original observation of pseudo-chirurgical acute abdomen revealing hyperthyroidism of Grave's disease.

Case Presentation

A 21-years old female, with no pathological medical history, was hospitalized in our department for acute and febrile abdominal pain evolving for two days without obvious cause and not responding to symptomatic treatment. She went to the emergency room twice, two days apart. The diagnosis of acute appendicitis was mentioned in both cases. Examination by the surgeon, baseline biological assessment (with in particular total blood count and C-reactive protein), and abdominal ultrasound were without abnormalities, ruling out the diagnosis in both cases.

The somatic examination in our department found a febrile patient at 39.5°C, tachycardia at 110/min with regular cardiac rhythm, and a slightly sensitive abdomen in its entirety without palpable masses or organomegalies. There was no evidence of progressive skin lesions, palpable peripheral lymphadenopathy, or genital discharge. Electrocardiogram showed isolated regular sinus tachycardia. Chest X-ray, plain abdominal radiography, abdominal and pelvic ultrasound, Doppler examination of the abdominal vessels, and trans-thoracic echocardiography were without

abnormalities. The basic biological tests were within normal limits: leucocytes, hemoglobin, platelet, serum calcium, ionogram, creatinine, glycaemia, liver enzymes, muscle enzymes, and urine analysis; as well as the pancreatic enzymes (amylase and lipase). Gastroduodenal fibroscopy was normal. The immunological assessment (anti-nuclear antibodies, anti-soluble nuclear antigen antibodies, and CH50, C3 and C4 complement levels) was without abnormalities. The hormonal assessment concluded with primary hyperthyroidism with a Thyroid Stimulating Hormone (TSH) at 0.04 μ UI/ml (0.25-5) and a Free Thyroxine (fT4) at 34.4 pmol/l [9-20]. Further specific investigations of this hyperthyroidism resulted in Graves' disease. The semi quantitative scale of the diagnosis of thyrotoxic storm was at 45 making the diagnosis highly likely. Treated initially with Thiamazole at a dose of 30 mg/day associated to a beta-blocker and later with a maintenance dose of 5 mg/d of thiamazole alone, the course was rapidly favorable with a pyrexia and disappearance of abdominal pain. No recurrence has been noted for 3 years now.

Discussion

Extremely rare and often anticipated by a triggering factor such as surgery, dehydration, infection, stress, or iodine medications, this hyperthyroidism entity, described as "thyrotoxic storm", remains very little known and often neglected by clinicians [7-10]. It presents a real diagnostic challenge, especially given its possible fatal evolution. Its frequency is estimated at 1% to 2% of hospitalizations for thyrotoxicosis, and can have very polymorphic and often intricate clinical presentations, explaining errors and diagnostic delays [7]. Gastrointestinal Manifestations are included in the semi quantitative scale for the diagnosis of thyrotoxic storm most common symptoms are diarrhea, vomiting, and rarely diffuse abdominal pain [10]. Acute abdomen, intestinal obstruction, and liver injury with jaundice are exceptional [7,10]. Abdominal pain may be the first sign of hyperthyroidism, and can sometimes simulate a real surgical emergency and lead to unnecessary interventions [3,8,9,11-14]. It can also paradoxically associate with constipation (unlike the classic diarrhea of hyperthyroidism) and fever can also be absent even in case of thyroid storm [9,15]. The clinical presentation can simulate acute appendicitis, acute pancreatitis, acute diverticulitis, mesenteric ischemia, acute gastroenteritis, acute hepatitis, or severe sepsis with multi organ failure or perforated ulcer [6,8,16,17]. Thus, hyperthyroidism, thyrotoxicosis crisis and the exceptional thyrotoxic storm must be considered among the endocrine etiologies to be evoked in front of an acute pseudo-surgical abdomen even in front of apathetic or incomplete forms, particularly in elderly [5,6,19]. The physiopathology of this acute abdomen associated to hyperthyroidism is not yet well understood; the most advanced hypotheses are gastrointestinal hypermotility with mechanical stretching and visceral nociception, and mesenteric ischemia of sympathetic hyper sensibility and release of pro-inflammatory cytokines [7,20].

Conclusion

As exceptional as it is, this presentation of hyperthyroidism deserves to be known and some authors recommend thyroid screening in front of any abdominal pain that is not proven, particularly in women and outside pathological gastrointestinal history. Our

observation is further characterized by its spontaneous character, without any factor precipitating the "thyrotoxic storm".

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