

ANOREXIA NERVOSA – MEDICAL AND SOCIAL INVOLVEMENT A CASE REPORT

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Anorexia nervosa is a disabling condition, with severe multisystem organ involvement and very serious prognosis. The prevalence of anorexia nervosa along life was estimated to be 1.2-2.2% and standardized mortality rates revealed mortality of 10 to 12 times higher in patients with anorexia nervosa compared to general population. Cardiovascular effect in anorexia is common, accompanied by a considerably morbid-mortality. We present the case of a female patient, 28 years, with anorexia nervosa for 10 years, admitted in hospital for severe dyspnea and leg edema. Physical examination revealed: paleness of the skin, leg edema, pulmonary and systemic congestion. Clinical and laboratory investigations led to the diagnosis of congestive heart failure NYHA class IV, due to severe cardiac structural changes caused by anorexia nervosa and aggravated by metabolic disturbances and electrolyte disorder, secondary to psychiatric condition. Cardiac damage in anorexia nervosa is due to caloric restriction with severe weight loss and refueling syndrome. Frequently, symptoms and changes found in the physical exam of the patients with anorexia are attributed to metabolic disorders and the actual damage the cardiovascular system is often overlooked. Patients with anorexia nervosa require periodic cardiovascular evaluation for early diagnosis and appropriate therapeutic attitude.

Key words: Anorexia nervosa, heart failure

INTRODUCTION

Anorexia nervosa is a severe, psychosomatic illness, with high morbidity and mortality that come to constitute a significant public health problem. The prevalence of anorexia nervosa along life was estimated to be 1.2-2.2%¹. Crude mortality rate 5-6%² and standardized mortality rates are 10 to 12 times higher in patients with anorexia nervosa compared to general population³. This disease, with an increasing incidence and prevalence, has a special predilection for adolescents and young adults, especially females, with a very serious prognosis and considerable economic cost individually and in society generally⁴. Recent studies show a prevalence of 0.3-3% of anorexia in young women, being on the 3rd place in terms of prevalence of chronic diseases in adolescents¹. In men, the prevalence is 0.24%, but this category is more frequently underdiagnosed. Due to late submission, complete recovery in this pathology is up to 33%¹. Anorexia is associated with numerous health complications attributed mainly to caloric restriction, weight loss, and also to the refeeding syndrome⁵. These cases also generate extremely high costs in the health system through repeated hospitalizations, long and

complex treatments, nursing in intensive care units. The high morbidity and mortality is largely due to cardiovascular complications, often overlooked in these patients, in whom management especially emphasizes the psychiatric and/or metabolic side⁶. Cardio-vascular examination, hospitalization and cardiac medication, often necessary, are rarely found in the management of these patients. Cardiovascular impairment is complex and initially reversible⁷. In addition to correcting nutritional disorders, it requires active cardiovascular medication in cardiac decompensation episodes or for long term. Early identification of cardiovascular pathology leads to improved prognosis and lower health costs.

MATERIAL AND METHODS

We present the case of a female patient, 28 years old, diagnosed with anorexia nervosa 10 years ago, admitted to hospital for fatigue, severe dyspnea at rest, leg edema. She drank only apple juice in the last 18 months, and she ate pretzels in the last 2 weeks. Physical examination revealed: paleness of the skin and mucous membranes, major leg edema, pulmonary and systemic congestion, tachycardia (VR - ventricular rate: 120/min), hypotension (BP - blood pressure: 90/60mm Hg). Biological samples

showed hypochromic, microcytic anemia (hemoglobin: 9.7g/dL, hematocrit: 28%), hypoalbuminemia (2.8 g/dL), hypokalemia (2.8 mmol/L), hypophosphatemia (2 mg/dL), NT Pro BNP severely increased (15.668 pg/mL). The thoracic X-Ray (Figure 1) was suggestive for cardiomegaly and pulmonary stasis. The resting electrocardiogram (Figure 2) showed: sinus tachycardia, elements for left ventricular hypertrophy. The Holter monitoring (24 hours) showed: sinus rhythm with minimum VR: 90/min, average VR: 105/min, maximum VR: 143/min, frequent supraventricular and ventricular extrasystoles with systematization tendency, decreasing VR variability and normal QT interval, no pauses, no atrial fibrillation episodes. The BP 24 hours monitoring showed medium BP: during day: 102/64 mm Hg, during night: 86/54 mm Hg, all the period: 92/56 mm Hg, dipper pattern. Echocardiography showed: dilated heart cavities, moderate global systolic dysfunction of the left ventricular (LVEF- left ventricular ejection fraction: 40%), right ventricular dysfunction, acquired mitral valve prolapse, acquired tricuspid valve prolapse, severe mitral regurgitation (Figure 3), severe tricuspid regurgitation, pulmonary hypertension.

RESULTS AND DISCUSSIONS

The final diagnosis was: heart failure NYHA IV class, moderate left ventricular systolic dysfunction, right ventricular dysfunction, acquired mitral valve prolapse with severe mitral regurgitation, acquired tricuspid valve prolapsed with severe tricuspid regurgitation, pulmonary hypertension, supraventricular and ventricular extrasystolic arrhythmia, anorexia nervosa, moderate anemia, hypoalbuminemia, hypokalemia, hypophosphatemia. The patient needed progressive scientific refeeding, psychiatric treatment, cardiovascular medication with specific drugs, blood transfusion, albumin administration, correction of hidroelectrolytic disorders. The decision about the need of cardio-vascular surgery for valvular replacement was difficult, because of poor general condition at presentation and because of poor adherence in treatment.



Figure 1. Thoracic X ray

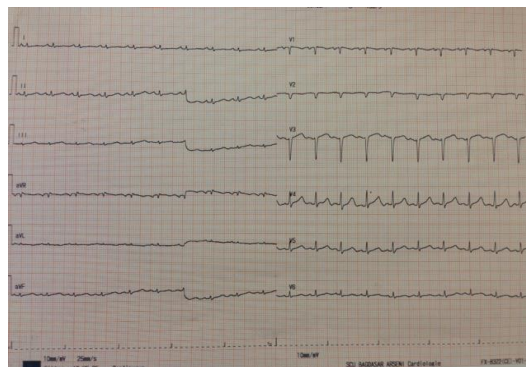


Figure 2. Resting electrocardiogram

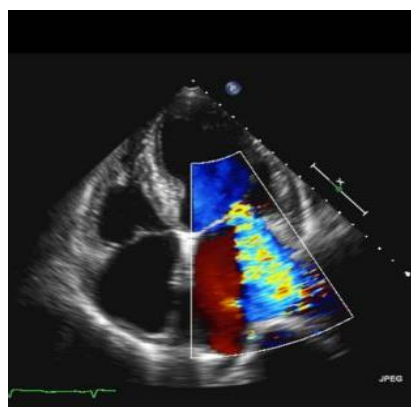


Figure 3. Echocardiography. Apical 4 chambers section. Severe mitral regurgitation.

The diagnosis of anorexia nervosa needs a psychiatric evaluation. It is important to make a differential diagnosis with the majority of neoplasia, tuberculosis, HIV infection, poorly controlled diabetes mellitus, hyperthyroidism, malabsorption syndromes. The symptoms of anorexia nervosa are not specific: amenorrhea, fatigability, palpitation, edematous syndrome⁴. The presented patient had all these symptoms. The physical examination usually reveals BMI<17.5 kg/m², hypothermia, xerosis, bradycardia (<60/min), hypotension. Our patient had tachycardia, as a sign of heart failure. The complications appear in over 50% patients and they are due to caloric restriction and weight loss, but also to refeeding syndrome^{4,8,9}. The complications of anorexia can affect many systems: the cardiovascular system, the pulmonary system (the diaphragm with ventilator disorders), the muscles (myalgia, tetany, rhabdomyolysis), the gastrointestinal system (liver, pancreas, atrophy of the intestinal mucosa), the neurologic system (paresthesia, delirium), the osteo-articular system (osteoporosis), fertility, pregnancy^{10,11}. Our patient had mainly cardio-vascular and hidro-electrolytic complications. In cardio-vascular system there are described structural and functional changes that can be found in anorexia. Structural changes are: decrease cardiac mass, decreased cardiac chambers, tricuspid and mitral valve prolapse with secondary valvular regurgitation, myocardial fibrosis, pericardial effusion^{5,12}.

These changes become clinically evident when weight is less than 80% of ideal weight. Functional changes are: bradycardia, hypotension, long QT, decreased ventricular rate variability, and driving rhythm disturbances secondary to hypokalemia or hypomagnesemia¹³⁻¹⁵. The presented patient had functional and also structural cardiac changes due to anorexia nervosa.

CONCLUSIONS

Anorexia is a rare disease, being mostly covered in nutritional or psychiatric clinics. Anorexic patients are usually under 18 years old. The cases of those younger than 18 years require pediatric cardiologic examination and also medical consent from the families. The currently published studies in the literature are conducted on a very small number of patients (20-40 patients)¹³. Randomized trials do not exist and most frequently there are clinical case reports². There are no data to achieve a complex profile (clinical, biological, complete laboratory) of these patients. Studies are limited to isolated description of structural or functional changes in these patients⁹. Addressability to a medical service is often late and admissions are into psychiatric clinics, clinics with nutritional profile, and the terminally ill in intensive care units wards¹⁶. It is also known that patients with anorexia are at increased risk of sudden cardiac death. Cardiac damage in anorexia nervosa is due to caloric restriction with severe weight loss and due to the refeeding syndrome⁶. The clinical picture of generalized edema is often blamed on metabolic deficits (hypoalbuminemia) and cardiovascular pathology highly probable (heart failure) is overlooked. This is why it is rarely asked for a cardiologic consult and hospitalization of these patients is relatively difficult in cardiology clinics. Often, the patient is addressed to cardiology in advanced stages of anorexia when changes are frequently irreversible. Treatment of established cardiovascular pathology is complex and these patients have poor adhesion to any medical intervention, either diagnostic or therapeutic. Patients with anorexia nervosa require periodic cardiovascular evaluation for early diagnosis and appropriate therapeutic attitude.

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