



## Reserach Article

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# The Wilkie's Syndrome which Disguised As Anorexia Nervosa: A Case Report

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## Abstract

Wilkie's Syndrome (WS), Superior Mesenteric Artery Syndrome or aortomesenteric clamp is an infrequent cause of high intestinal obstruction that is produced by an angular constriction ( $< 25^\circ$ ) between the superior mesenteric artery and abdominal aorta, resulting in a compression of the third duodenal portion. Its incidence is estimated around 0.013-0.3% in general population, as it is more common in women between 10-39-years. This pathology produces unspecific gastrointestinal symptoms, turning diagnostic suspicion really important, due to its critical complications.

The case of a 15-year old woman is presented, who is admitted in an acute child psychiatric hospitalisation unit because she displays eating disorder symptomatology in the previous months. Initially she is suspected for suffering Anorexia Nervosa (AN) but according to the rapid general deterioration that she suffers the case is profoundly studied and eventually diagnosed as a Wilkie's Syndrome case, based on an exhaustive complementary test battery.

This case shows the importance of the diagnostic suspicion of this entity and the relevance of making a proper differential diagnosis in Eating Disorders (ED).

## Keywords

Eating disorders, Wilkie, Anorexia, Aortomesenteric clamp, Nutrition

## Introduction

Wilkie's Syndrome (WS) or superior mesenteric artery Syndrome is a rare cause of an upper small bowel constriction originated by a decreased angulation ( $< 25^\circ$ ) between the superior mesenteric artery and abdominal aorta, leading to an obstruction of the third part of the duodenum. Its exact incidence is unknown but its estimated around 0.013-0.3% in general population, being more frequent in Young women aging 10 to 39-years old [1]. This pathophysiology produces non-specific gastrointestinal symptoms (dyspepsia, nausea, vomiting...).

Hence, strong clinical suspicion is required because otherwise severe complications may occur [2-3]. Due to the previous predisposing factors such as non-specific clinical symptoms and higher prevalence in young females, there is a frequent confusing and overlapping diagnosis with eating disorders (ED) [4]. Our purpose with this case report is to highlight the importance of performing an exhaustive and appropriate differential diagnosis based on clinical, physical examination and the correct use of additional tests (e.g. laboratory and radiology evidence).

## Case Report

Here in, the case of a 15- years old woman is presented. She

shows eating disorder-like symptomatology in the last couple of months, which initiates after leaving her sport activity (artistic gymnastics). A noteworthy change in her eating pattern is observed, with high-caloric food stuff restriction, decrease of food amounts, diet orientation inflexibility, sense of abdominal fullness and postprandial pain, increase of liquid intake between meals and hiporexia. Moreover, food related rituals appear, such as, cutting food into small pieces and spending too long time eating.

The patient denies body image distortion and apparently does not display purgative behaviours. In the psychopathological exploration the affective lability stands out, with anxiety symptoms, cognitive ruminating, important

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asthenia and primary insomnia. Reactively to the above mentioned, weight loss of almost 8kg takes place from her basal 43kg to 35,6kg, losing even 5kg in a month, reaching a 15,5Kg/m<sup>2</sup> BMI and amenorrhoea onset.

In light of diagnosis of Restricting Anorexia, the patient is hospitalized in young psychiatric Acute unit of a third level hospital and a dietary guidance of 1500 calories is set. However, rapidly the patient develops diffuse abdominal pain, irradiated to right lumbar area, as well as severe diarrhoea, nausea and postprandial uncontrolled vomits, with general deterioration. Due to the severity and persistence of those symptoms, evaluation from Intern Medicine and General Surgery is required.

In the physical examination, the patient shows bad general condition, mucocutaneous paleness, low-grade fever of 37.1°C and mild tachycardia of 105bpm. Tympanic and distended abdomen sticks out, painful at diffuse manual examination, worsening at decompression. No hernias nor bladder distention are palpated. Rectal examination is non specific. Blood tests reveal 19300 leucocytosis with neutrophilia, 1.62 creatinine level, 732 amylase, 52 of PCR and 1.12 of PCT. An urgent turaco-abdominal CT is requested with findings of great distal oesophagus, grand gastric distension with food remains and dilatation of proximal duodenum until aortomesenteric space with normal posterior duodenum calibre. Consequently, the diagnosis of aorto mesenteric clamp is suggested.

In the presence of these suggestive clinical findings diagnosis of Wilkie's Syndrome is suspected and the patient is directed to General Surgery Unit to receive proper support and treatment. During her admission image study is completed with MRI in which the angle between abdominal aorta and mesenteric artery is measured, with decreased outcome (32°). This finding causes decrease in aortomesenteric distance (3.6mm). Barium intestinal transit test is also carried out showing evidence of the dilatation of first and second duodenal portions, with collapse of the third portion, which only allows sporadic pass of small barium amounts to the jejunal loops that show normal calibre. Eventually Wilkie's Syndrome diagnosis is confirmed and after a prolonged admission clinical recovery is achieved. It is important to highlight that hospitalisation in Intensive Care Unit, prolonged nasojejunal probe mediated nutrition and eventual jejunostomy were needed to achieve that recovery, with final removal of all those measures.

## Discusión

Wilkie's syndrome is a rare clinical condition which is very associated with eating disorders [1]. The very fast adipose tissue loss as a consequence of caloric restriction is one of the most frequent reasons for the reduction of the aortomesenteric angle, resulting in compression of the duodenum.

In patients with low BMI it is usual to find an aortomesenteric angle with < 25°. Therefore, the presence of some clinical features compatible with Wilkie's syndrome is necessary in order to set the diagnosis. Hence, symptoms such as anorexia, postprandial fullness, abdominal distention, abdominal pain, vomiting are frequent in this syndrome [2], turning it into easily mistakable with the prodromal of eating disorders [3].

The diagnosis of this syndrome is a challenge. Based on a detailed medical history, an exhaustive physical exploration and with the support of appropriate imaging tests correct diagnosis can be established. Barium meal transit study commonly shows duodenal dilation and a retardation of the gastro duodenal emptying, a key finding to help with the diagnosis [4]. First line treatment must be conservative, based on parenteral nutrition or, more aggressively, with nasojejunal probe. If the conservative treatment fails, surgical treatment appears as a second line option [1].

## Conclusions

The explained case constitutes a paradigmatic example of a really uncommon but relevant pathology as the Wilkie's Syndrome. Due to its clinical severity, the importance of its proper differential diagnosis when facing Eating Disorders is essential. Moreover, it underlines the magnitude of appropriately evaluating the etiology and organic comorbidity in every disorder labelled as "psychiatric", showing how crucial and determinant this can be therapeutically and, in consequence, as prognostic factor.

## Conflicts of Interest and Source of Funding

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