Wilkie’s Syndrome: A Case Report

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3rd International Conference on Surgery and Anesthesia
The aim of this study is to report the case of a patient with Wilkie’s Syndrome presentation who underwent a surgery in the I Surgical Clinic at the Hospital Federal de Bonsucesso, with a favorable outcome.
“Vascular Compression of the Duodenum, also known as Superior Mesenteric Artery Syndrome or Wilkie’s Syndrome, is a rare condition characterized by compression of the third portion of the duodenum by the superior mesenteric artery as it passes over this portion of the duodenum.”
(SABISTON, 2012)
## DEFINING WILKIE’S SYNDROME

<table>
<thead>
<tr>
<th></th>
<th>NORMAL</th>
<th>WS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aortomesenteric angle</strong></td>
<td>25 – 60 degrees</td>
<td>6 – 20 degrees</td>
</tr>
<tr>
<td><strong>Aortomesenteric distance</strong></td>
<td>10 – 28 mm</td>
<td>2 – 8 mm</td>
</tr>
</tbody>
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MECHANICAL AND ANATOMICAL CHANGES

- DECREASE IN MESENTERIC FAT
- INCREASED SPINAL LORDOSIS
- SHORT LIGAMENT OF TREITZ
- UNUSUALLY LOW ORIGIN OF SMA
- PARALYSIS AND FULL-BODY CASTS
- 40% OF PATIENTS HAVE NO APPARENT EXPLAINABLE CAUSE

40% of patients have no apparent explainable cause.

PATHOPHYSIOLOGY

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EPIDEMIOLOGY

The Syndrome is known since 1842

It was reported in the literature in 1927 by Wilkie

About 400 cases have been described in English literature

The prevalence of the Syndrome is between 0.03 and 0.3%

Females are more affected by WS

75% of the cases occurred in patients aged 10-30 years old

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## CLINICAL PRESENTATION

<table>
<thead>
<tr>
<th>Acute Presentation:</th>
<th>Chronic Presentation</th>
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<tbody>
<tr>
<td>Nausea</td>
<td>Long-standing vague abdominal symptoms</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Recurrent episodes of abdominal pain associated with vomiting</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>Early satiety</td>
</tr>
<tr>
<td>Abdominal distension</td>
<td>Anorexia</td>
</tr>
<tr>
<td>Tympani</td>
<td></td>
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<tr>
<td>Abnormal bowel sounds</td>
<td></td>
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</tbody>
</table>
DIAGNOSIS

CLINICAL SYMPTOMS + RADIOLOGIC EVIDENCE OF OBSTRUCTION = DIAGNOSIS

- Barium Upper Gastrointestinal Series
- Computed Tomography Angiography
- Nuclear Magnetic Resonance Angiography

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MEGADUODENUM

A CLASSIC PICTURE obtained is a dilated proximal duodenum with an abrupt termination of the barium column in the third part.
DIAGNOSIS

Normal CT ANGIOGRAPHY
Normal aortomesenteric angle

CT ANGIOGRAPHY shows the reduced aortomesenteric angle !!
TREATMENT

MEDICAL CARE

❖ Adequate nutrition
❖ Nasogastric descompression
❖ Proper positioning of the patient after eating (left lateral decubitus, prone)

SURGICAL CARE

❖ Conservative measures are ineffective
❖ A trial of conservative treatment should be instituted for at least 4-6 weeks prior to surgical intervention
❖ It consists of a duodeno-jejunal anastomosis

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CASE REPORT

A 37-year-old female was admitted to the ward of the I Surgical Clinic of the Hospital Federal de Bonsucesso-Rio de Janeiro - Brazil on June 18th 2014 complaining of epigastric pain beginning four years earlier with moderate intensity with worsening after meals, in addition to nausea and vomiting associated.

The patient also reported weight loss of 37 kg (81 pounds) during this period, reaching 40 kg (88 pounds).

Past history of laparoscopy cholecystectomy performed four years earlier.
She underwent a screening for cancer, with normal endoscopy, colonoscopy and computed tomography of chest, abdomen and pelvis.

Subsequent barium study (traffic slender) suggested an extrinsic compression of the third portion of the duodenum and distension upstream.

A CT Angiography revealed an anomalous pathway of the superior mesenteric artery, which is nearly parallel to the aorta.
CT ANGIOGRAPHY

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CT ANGIOGRAPHY
The case was discussed in clinical session of the I Surgical Clinic. The diagnosis of Wilkie’s Syndrome was considered, although very questioned.

A surgical approach was proposed: LAPAROTOMY.
The SURGERY (on June 27th 2014) showed an aortomesenteric clamp compressing the third portion of the duodenum and gastrectasia, establishing the diagnosis of Wilkie’s Syndrome.

The superior mesenteric artery was adhered to the duodenum.

Duodenum biopsy ruled out nervous tissue damage;

A latero-lateral duodeno-jejunal anastomosis was performed.
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SURGERY

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POSTOPERATIVELY:

- The patient recovered well postoperatively;
- The oral diet was started on the second day;
- The patient was discharged on the eighth postoperative day, on July 4th 2014.
CASE REPORT

OUTPATIENT FOLLOW-UP OF 130 DAYS:

❖ The patient is completely free of symptoms;
❖ She gained 10 kg (22 pounds).

PSYCHOLOGICAL FOLLOW-UP:

❖ The patient fears recurrence of symptoms.
DISCUSSION

WILKIE’S SYNDROME PRESENTATION

CHRONIC PRESENTATION

Moderate intensity epigastric pain

Nausea and vomiting

Weight loss of 37 kg (81 pounds)
DISCUSSION

IMAGING TECHNIQUES CHARACTERIZED THE WILKIE’S SYNDROME

BARIUM STUDY

Extrinsic compression of the third portion of the duodenum

Distension upstream

CT ANGIOGRAPHY

Anomalous pathway of the superior mesenteric artery

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DISCUSSION

CONVENTIONAL APPROACH ➔ LAPAROSCOPY
Minimally invasive surgery

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APPROACH OF CHOICE ➔ LAPAROTOMY
The SMA was adhered on the duodenum

Past history of surgery: prior laparoscopic cholecistectomy

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DISCUSSION

LATERO-LATERAL DUODENOJEJUNOSTOMY

Conservation of the pyloric function

Prevention of alkaline gastritis
CONCLUSION

The patient saw 12 specialists in the period of 2 years looking for a diagnosis, unsuccessfully. By the end of this period, the 12th specialist, a professor from State University of Rio de Janeiro, referred her to Doctor Flávio Antônio de Sá Ribeiro, who took over the case in the I Surgical Clinic at the Hospital Federal de Bonsucesso, with a favorable outcome.
Thank you, Doctor Flávio Antônio de Sá Ribeiro!!
Thank you all for your attention!!