

# Wilkie's and Nutcracker's syndromes overlapping a case of functional dyspepsia

## Síndrome de Wilkie y del Cascanueces superpuestos a un caso de dispepsia funcional

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### ABSTRACT

We present the case of a patient suffering from a mixed-type functional dyspepsia who markedly reduced his diet to improve his symptoms leading him to malnourishment and a subsequent Wilkie's and Nutcracker's syndromes which exacerbated his pain. Our aim by presenting this case is to raise awareness as to what extent a so-called functional dyspepsia can evolve and of the possible overlap with these two entities in case of severe malnutrition.

**Keywords:** Superior Mesenteric Artery Syndrome; Dyspepsia, Renal Nutcracker Syndrome (source: MeSH NLM).

### RESUMEN

Presentamos el caso de un paciente diagnosticado de dispepsia funcional de tipo mixto, el cual redujo marcadamente su dieta para mejorar sus síntomas, llevándolo a una desnutrición y a un posterior síndrome de Wilkie y del Cascanueces que agudizó su dolor. Nuestro objetivo con la presentación de este caso es concienciar de hasta qué punto puede evolucionar una denominada dispepsia funcional y del posible solapamiento de estas dos entidades en caso de desnutrición severa.

**Palabras clave:** Síndrome de la arteria mesentérica superior; Dispepsia; Síndrome de Cascanueces Renal (fuente: DeCS Bireme).

### CASE REPORT

We hereby present the case of a young 24-year-old male patient without any past medical history who suffered from a mixed-type functional dyspepsia for the past 4 years which had led him to lose 20kg of weight with malnourishment (BMI 18). He related his symptoms to the ingestion of certain foods (mainly carbohydrates) and had therefore markedly reduced his diet. He had had two gastroscopies performed with gastric biopsies, showing chronic gastritis Hp negative, and normal duodenal biopsies, as well as a colonoileoscopy with normal findings. Laboratory workout had also been normal.

For the past 6 months, in conjunction with a more rapid weight-loss, the patient reported a change in his postprandial pain, it becoming more intense and of rapid

onset. He was admitted in our hospital center for a joint approach by the Gastroenterology, Nutrition and Mental Health Departments.

A body CT scan showed an aortic-mesenteric angle of 20° with a distance between the aortic anterior wall and the posterior mesenteric arteria wall of 0.36 cm, both values being abnormal. The left renal vein was narrowed at the level of the compression with prior dilatation. The duodenum was also partially collapsed showing liquid retention in the stomach. The patient was evaluated by the General Surgery and the Vascular Surgery Departments, agreeing to endorse a conservatory approach with re-nutrition. This one consisted in oral enteral protein supplements administered during hospitalization and for 6 months following discharge as well as general dietary changes (increasing overall animal protein and vegetable

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**Figure 1.** CT scan showing an aortic-mesenteric angle of 20° with a distance between the aortic anterior wall and the posterior mesenteric artery wall of 0.36cm.

fat intake). A partial relief of symptoms was observed when evaluated 1, 3 and 6 months after discharge. BMI raised up to 20 at the end of the study period.

## DISCUSSION

Functional dyspepsia is highly prevalent. <sup>(1)</sup> The Rome IV criteria includes it in what are now called the disorders of the Brain-Gut interaction. <sup>(2)</sup> Although typically for its diagnosis the absence of an illness that could explain the symptoms is required <sup>(2)</sup> there is increasing recent evidence of its organicity. <sup>(1,3)</sup> The treatment offered for this condition (mainly prokinetics and antispasmodic drugs) is of very limited effectiveness.

Nutcracker's Syndrome consists of the compression of the left renal vein, most commonly between the aorta and the superior mesenteric artery. <sup>(4)</sup> The symptoms may vary from asymptomatic hematuria to severe pelvic congestion. They include hematuria, orthostatic proteinuria, flank pain, varicocele, fatigue and orthostatic intolerance. <sup>(5)</sup> Treatment options range from observation to many surgical approaches such as left renal vein bypass, or even nephrectomy. <sup>(4,5)</sup>

Wilkie's Syndrome (also known as the Superior Mesenteric Artery Syndrome) is a digestive condition that occurs by compression of the third or transverse portion of the duodenum between the aorta and the superior mesenteric artery. <sup>(6)</sup> Acute presentation is usually characterized by signs and symptoms of duodenal obstruction. Chronic cases may present with vague abdominal symptoms or recurrent episodes of abdominal pain. <sup>(7)</sup> Treatment consists mainly in conservative measures for weight restoration and reconstitution of the mesenteric fat pad (parenteral nutrition and/or post-pyloric feeding when needed). Surgery such as duodenojejunostomy

can be considered if conservative treatment fails. <sup>(7,8)</sup> The concurrence of both syndromes is rare. <sup>(9,10,11)</sup> It has been documented in the scientific literature the association with other compressive syndromes of different vascular or gastrointestinal structures such as the arcuate ligament or the left iliac vein (May-Thurner syndrome) <sup>(12)</sup> as well as with IgA nephropathy. <sup>(9)</sup> In our case, the patient did not display any symptoms of the Nutcracker syndrome, it being an incidental finding in the imaging study. It is also worth noting that our patient is male, which is rare in this setting, for this disease is common in thin and tall women. <sup>(11)</sup>

## CONCLUSION

Our aim by presenting this case is to display as to what extent a so-called functional dyspepsia can evolve and to raise awareness of the possible overlap with Wilkie's and/or Nutcracker's syndromes in case of severe malnutrition.

**Conflicts of interest:** The authors state that there is no conflict of interest in the preparation or publication of this work.

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