A Narrow Path

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A Narrow Path

Um Trajeto Estreito

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A 35-year-old man was sent to the Cardiology consult due to recurrent syncope after orthostatism preceded by prodromal symptoms. His syncopal response to orthostatism was so significant and so fast that he resorted to wheelchair ambulation. Additionally, the patient also reported episodes of syncope while lying down. Physical examination revealed the presence of an exuberant pectus excavatum. He was admitted to the Cardiology Department for evaluation. The initial cardiac study did not show significant findings: the 12-lead electrocardiogram presented an incomplete right bundle branch block, electrocardiographic monitoring showed rare supraventricular ectopy, and the transthoracic echocardiogram presented no relevant findings. A computed tomography scan was performed which showed severe pectus excavatum (Figure 1), with the lower sternum distancing 6 mm from the vertebral column, compressing the inferior vena cava (arrow). This resulted in a Haller index (a pectus index obtained from dividing the transverse diameter of the chest by the anterior-posterior diameter) of 46, far greater than the 3.25 cut-off to consider corrective surgery.[2] A cardiac magnetic resonance imaging was then performed, revealing severe inferior vena cava compression in decubitus position (supplemental video).

The patient was referred for thoracic surgery and underwent a Nuss procedure, minimally invasive surgery to correct this thoracic deformity using intrathoracic bars[1]. The patient did not experience any relevant complication from this, was syncope free during the follow-up and was able to walk once again. The chest radiograph and CT scan in follow-up revealed the excellent result of the surgery (Figure 2) with inferior vena cava decompression.

There are only a handful of published cases of pectus excavatum with inferior vena cava compression, with varying symptoms, such as syncopal episodes[3], lower extremities edema[4] and pulsus paradoxus[5]. To the best of our knowledge, we present the case with the most severe thoracic deformity causing disabling syncope in orthostatism, with a good functional outcome after surgical intervention.

Ética de la publicación

1. ¿Su trabajo ha comportado experimentación en animales?:

No

2. ¿En su trabajo intervienen pacientes o sujetos humanos?:

No

3. ¿Su trabajo incluye un ensayo clínico?:

No

4. ¿Todos los datos mostrados en las figuras y tablas incluidas en el manuscrito se recogen en el

apartado de resultados y las conclusiones?:

Sí

Ethics in publishing

1. Does your research involve experimentation on animals?:

No

2. Does your study include human subjects?:

No

3. Does your study include a clinical trial?:

No

4. Are all data shown in the figures and tables also shown in the text of the Results section and

discussed in the Conclusions?:

Yes

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Figure 1. A computed tomography scan axial slice revealing a severe case of pectus excavatum with an antero-posterior diameter of 6 mm and inferior vena cava compression (arrow).

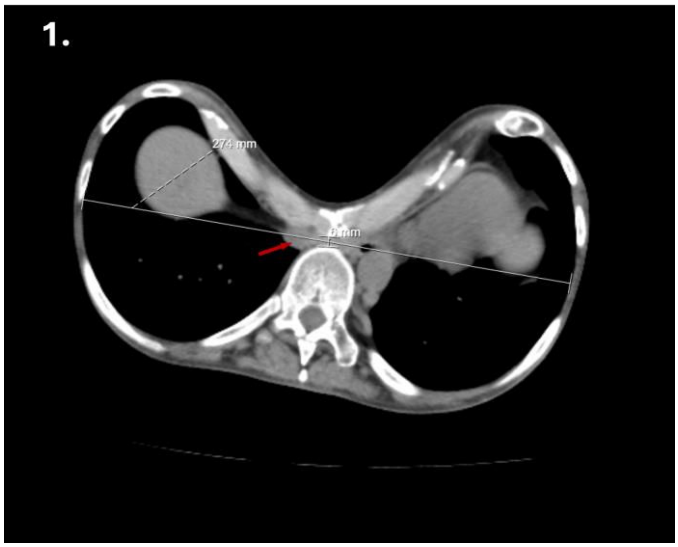
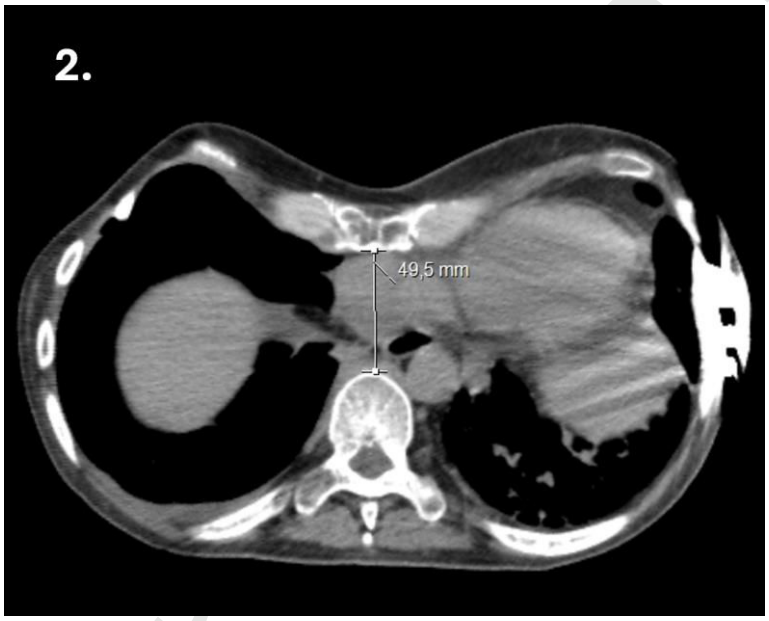


Figure 2. A computed tomography scan axial slice after the Nuss procedure showing the post-operative result with an antero-posterior diameter of 49.5 mm.



Supplemental Material

Video. A cardiac magnetic resonance axial cine showing inferior vena cava compression.