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Thoracic Park: Cardiac MRI reveals massive thoracic varices as consequence of inferior vena cava ligation

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Thoracic Park: Cardiac MRI reveals massive thoracic varices as consequence of inferior vena cava ligation

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Conflicts of interest

None declared

A 71-year-old gentleman underwent a cardiac magnetic resonance scan as part of a panel of investigations for unexplained breathlessness. Magnetic resonance imaging (figure 1) revealed remarkable collateral thoracic vasculature; with dilatation of the superior vena cava, extreme tortuosity and massive dilatation of the azygos and hemi-azygos system with large intercostal varicose venous channels draining into the axillary veins. In addition, there was splenomegaly and elevation of the left hemi-diaphragm.

On review of his history, the patient had recently developed breathlessness on lying flat. His past medical history was notable for infrarenal inferior vena cava (IVC) ligation following a 10m fall from a ladder 40 years previously.

IVC ligation is required in life-threatening vascular injury when primary repair is unfeasible. Peri-procedural mortality is high (36-60%), and long-term sequelae in survivors are poorly described.

The case outlined above illustrates the remarkable anatomical compensatory mechanisms occurring following inferior vena cava ligation, resulting in these striking and unique magnetic resonance images. The features are likely to be incidental to the gentleman's symptoms in this case, indeed lung function tests demonstrated a 23% drop in forced vital capacity when supine suggesting a diaphragmatic weakness. Furthermore the gentleman's symptoms improved with night time none invasive ventilation. However careful consideration of these varices would certainly be warranted for further procedures (e.g central venous cannulation).

Word count – 226

Figure

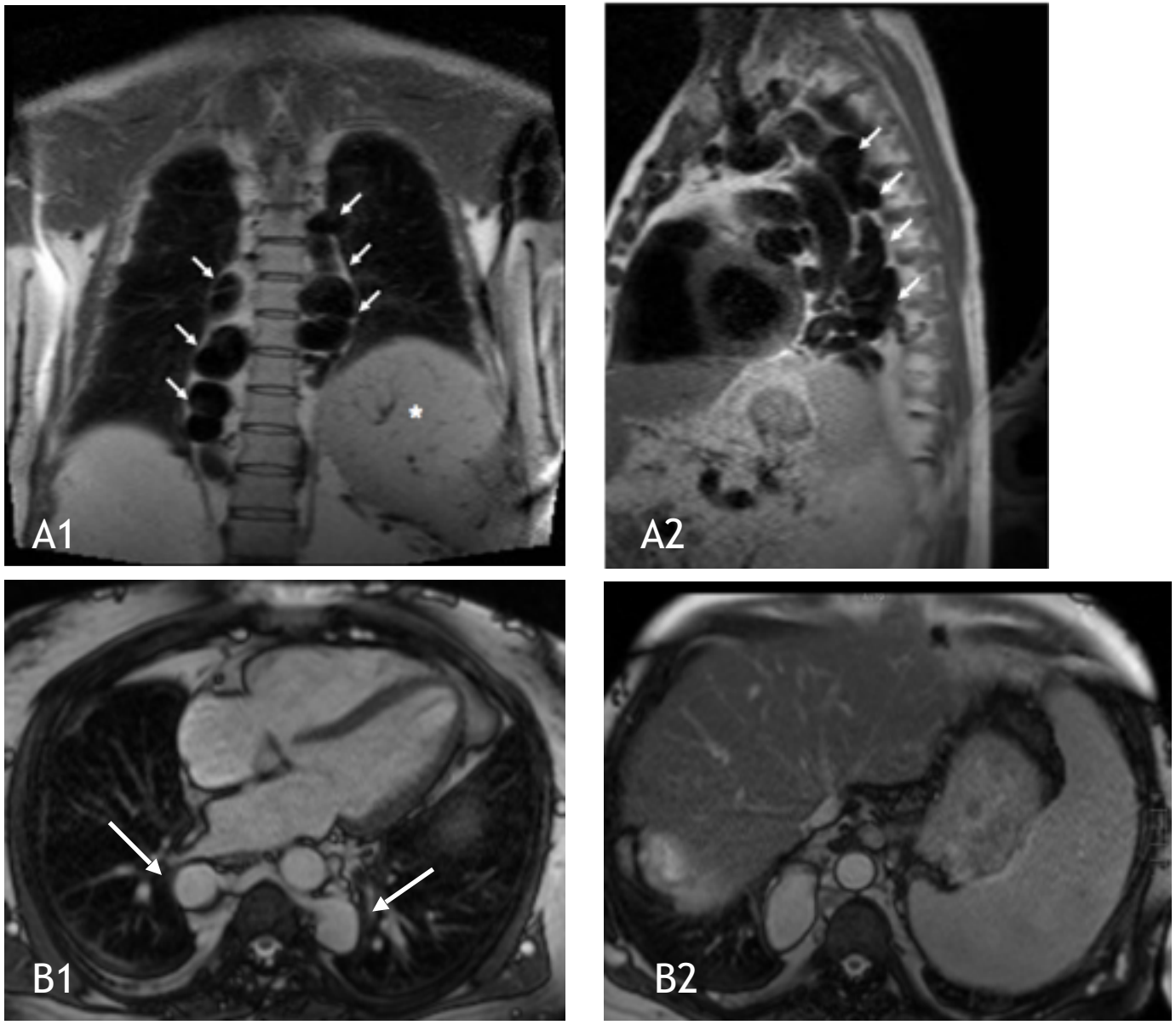


Figure 1

Coronal (A1) and para-sagittal (A2) T1-weighted magnetic resonance sequences showing massively dilated para-spinal collateral venous drainage (arrowheads) and relative elevation of the left diaphragm with moderate splenomegaly (asterisk). Axial sections of T2-weighted images demonstrating a markedly dilated azygous and hemi-azygous veins (B1, arrows) and the confluence of hepatic veins at proximal portion of the IVC (B2).