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Leading Vascular Science

Conrad Abu Dhabi Etihad Towers

Congenital Vascular Abnormality Presenting As Acute Paediatric Abdominal Pain : A Case Report

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INTRODUCTION

Vascular anomalies refer to the abnormal collections or growths of blood vessels. While most are present at birth, some may manifest later in life. These anomalies can range from being benign to causing serious complications or symptoms. In this case study, we aim to highlight how congenital vascular abnormalities can present as a cause of abdominal pain and the key features of radiologically significant vascular anomalies.

AIM:

- To raise awareness of congenital vascular abnormalities as a potential cause of acute abdominal pain in paediatric patients and to highlight the importance of including these conditions in the differential diagnosis to ensure timely and accurate diagnosis.

HISTORY:

15-year-old male with a background of eczema presented with a 5-day history of neck pain radiating to the back. He reported weakness and shaking in both legs, along with preceding episode of fever.

On a separate occasion, he presented with a 3-day history of left flank pain.

Examination findings:

First presentation: There was pain on leg flexion. The remainder of the examination was unremarkable.

Second presentation: Left paraspinal tenderness on palpation. The pain was found to be radiating to the left sciatic nerve distribution. There was evidence of hyperreflexia and reduced sensation at L4/L5.

Blood results:

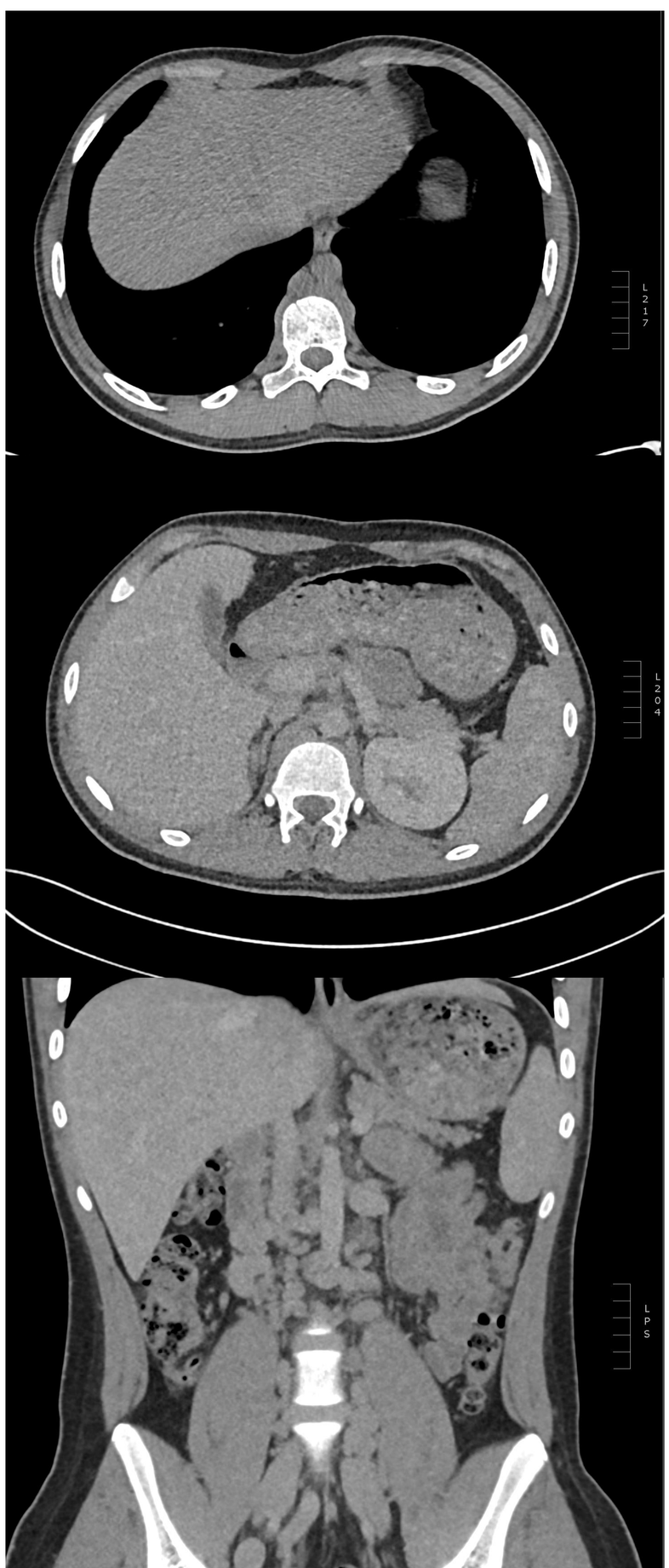
Blood test	Result (24/03/2023)	Result (05/05/2024)
Creatinine kinase	179	-
Haemoglobin	148	-
MCV	81.2	-
Platelet	284	-
White cell count	7.3	-
CRP	0.8	2.1
Adjusted calcium	2.52	-
Albumin	46	45
Alkaline phosphatase	168	152
Alanine aminotransferase	26	13
Bilirubin	26	25
Sodium	139	142
Potassium	4.3	4.2
Chloride	103	105
Bicarbonate	26	26
Urea	6.7	4.9
Creatinine	81	85

INVESTIGATIONS:

CT Thorax-abdomen-Pelvis with contrast findings:

CT urinary tract was performed which showed multiple tortuous dilated vessels through retroperitoneal region, retrocrural region and within the pelvis. It also showed a partially occluded inferior vena cava (IVC) giving rise to multiple collaterals. CT contrast was performed for further assessment. This showed azygos continuation of the IVC with a small calibre infra-diaphragmatic IVC and extensive venous collaterisation.

First investigation: CT Thorax-abdomen-pelvis



The images above are showing azygos continuation of the IVC with a small calibre infra- diaphragmatic IVC and extensive venous collateralisation.

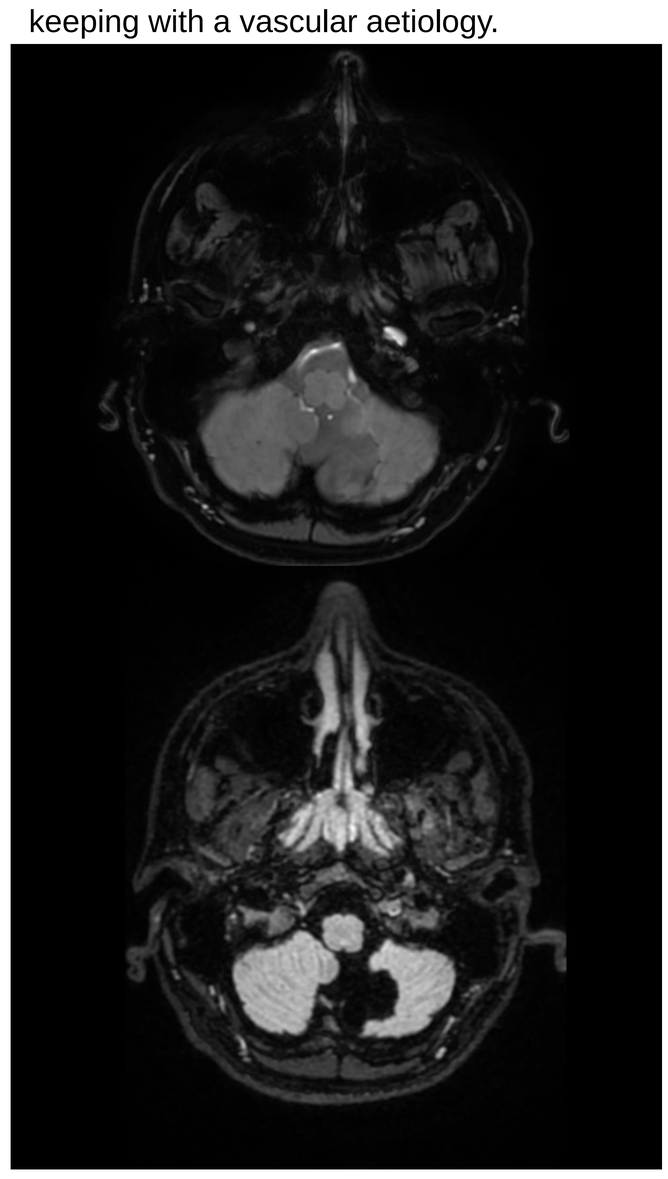
Differential diagnosis:

1. Developmental anomalies of the inferior vena cava
2. Mitochondrial disease

MRI Findings:

MRI spine showed old infarction in the left inferior cerebellum and atrophic right kidney.

Subsequent MRI head and MRA showed focal cortical damage in the left cerebellar hemisphere, left posterior frontal cortex plus scattered white matter lesions. Comparison with previous imaging confirmed this was chronic. This case was discussed at the paediatric neuroradiology MDT, and these findings were in keeping with a vascular aetiology.



Learning Points:

1) Despite ongoing neurological symptoms and abnormal vasculature, MRI of the whole spine excluded compression aetiology.

2) The investigation findings were discussed at the vascular MDT, although the aetiology for the hypoplastic IVC is still unknown, it is thought to be congenital and unlikely to be the cause of his symptoms. Consensus was reached that no further investigation or intervention is required.

CONCLUSIONS

1)Vascular anomalies can present acutely as atypical back pain

2)Cross sectional imaging is paramount for accurate acute diagnosis.

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