Ruptured Abdominal Aortic Aneurysm in an 11-Year-Old with Multiple Peripheral Artery Aneurysms

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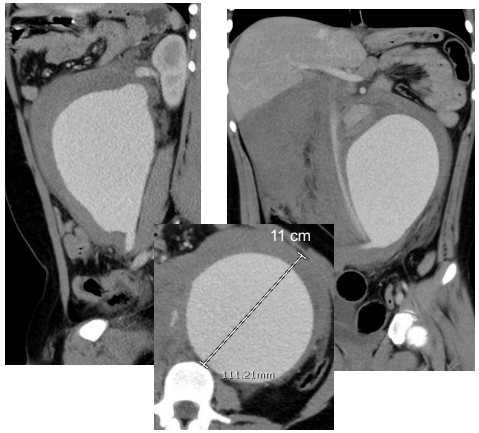
Introduction

Pediatric abdominal aortic aneurysms (AAA) are rarely encountered. The combination of a pediatric AAA in a patient with multiple peripheral artery aneurysms is even more rare. We report the management of an 11-year-old male with a ruptured AAA who also had multiple peripheral arterial aneurysms.

Case Presentation

An 11-year-old male who was previously healthy presented to an outside hospital after collapsing at home with complaints of 3 days abdominal pain. A CTA was emergently obtained and shown in **Image 1**. He was transferred to our facility for management.

Image 1: Ruptured 11-cm abdominal aortic aneurysm (AAA)



Case Management

Emergent laparotomy while allowing permissive hypotension. The retroperitoneal hematoma was evacuated and the supraceliac aorta was compressed.

Proximal aortic neck was dissected and suprarenal clamp positioned.

Aneurysm repaired with aorto-bi-iliac bypass. Aortic tube graft from aorta to left iliac with jump graft to right iliac with oversized grafts to allow patient growth.

Postoperatively managed in the pediatric intensive care unit with a temporary abdominal closure. Abdomen closed on POD 4 and extubated on POD 5. Discharged on POD 40 after recovering from a prolonged ileus. Genetic, infectious, and inflammatory workup was negative

Image 2

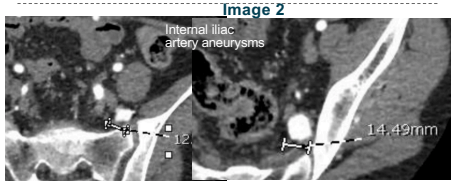
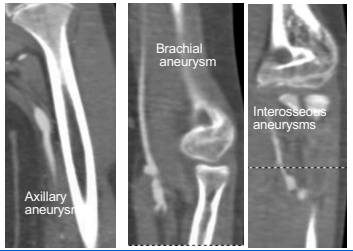


Image 3



Case Follow-up

2-month follow up CTA was performed revealing multiple internal iliac artery (IIA) aneurysms, **Image 2.** He also complained of a painful swelling in the left antecubital fossa and a CTA demonstrated an axillary, brachial, and multiple interosseous artery aneurysms, **Image 3**

Peripheral Aneurysm Management

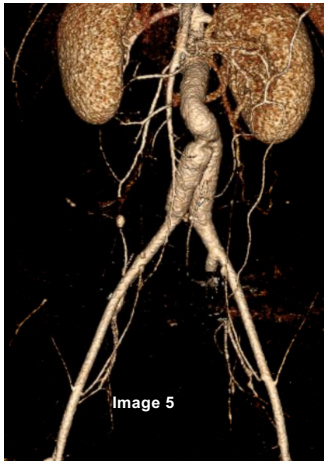
- IIA aneurysms coiled via brachial approach
- Interosseous arteries injected with thrombin
- Vein patch aneurysmorrhaphy of left brachial artery
- Axillary aneurysm will be surveilled until grows or becomes symptomatic

Discussion

- **AAA in children is rare and the initial presentation is often with rupture and death**
- **Most pediatric AAAs are associated with connective tissue disorders such as Marfan's Syndrome, Ehlers-Danlos syndrome, or Tuberous Sclerosis; vasculitis (i.e. Henoch-Schonlein purpura) infection; or acquired from a trauma such as umbilical artery catheterization.**
- **Congenital aneurysms are extremely rare with sizes reported between 1.6cm-11cm.**
- **The majority of reported congenital AAAs are diagnosed before the age of 2.**
- **No endovascular options available for management because of small aortic size and expected growth**
- **Growth must be considered when choosing graft size and length to ensure no functional coarctation develops**
- **Lifelong follow up is required to ensure no additional aneurysms develop**

Conclusion

- 10-month follow up CTA demonstrated stable AAA repair and no new aneurysms **Image 5**
- Will under go surveillance with duplex and alternating MRA and CTA for 2 years and then yearly CTA alternating with MRA for surveillance



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