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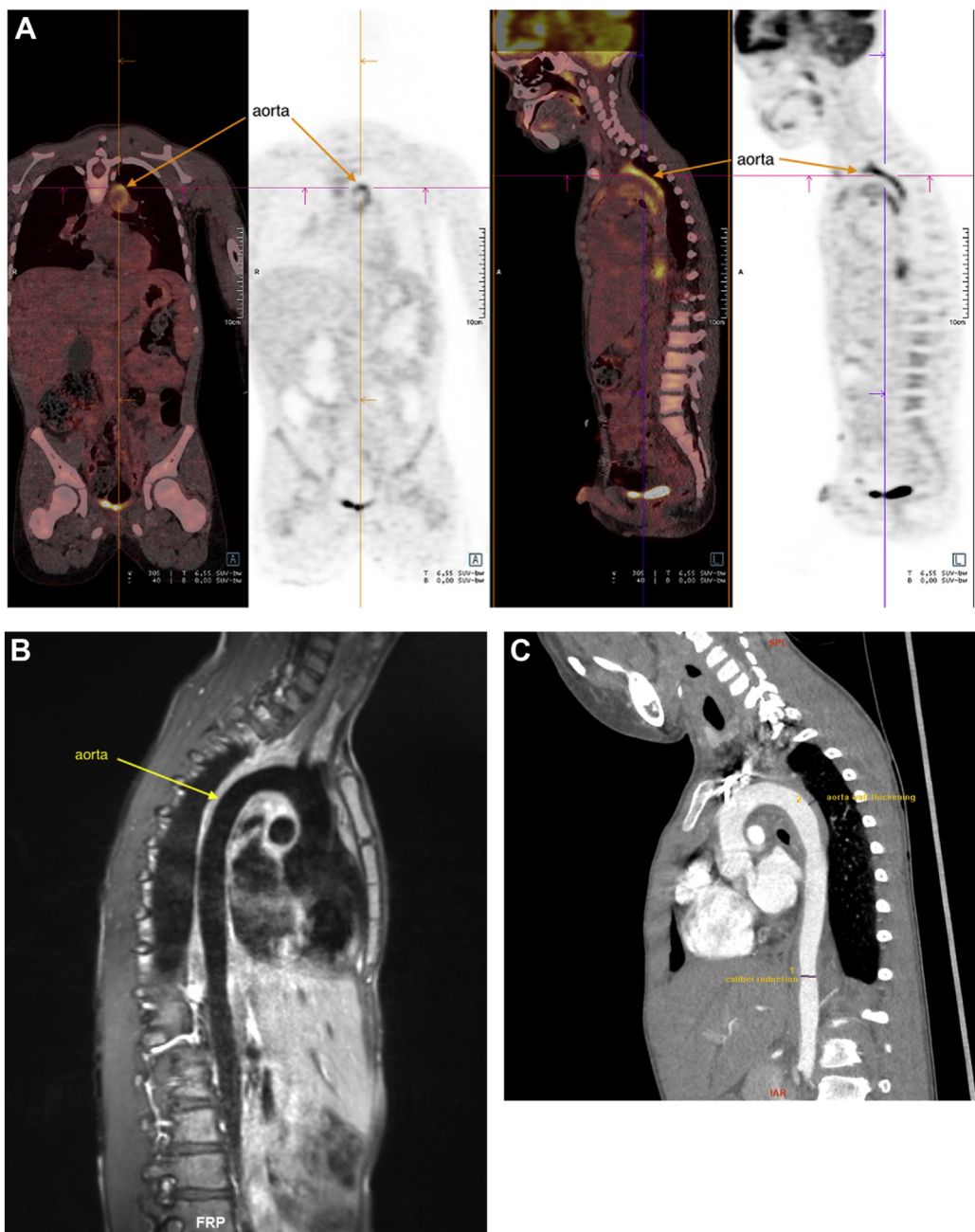
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Uncommon Cause of Chest Pain in a 9-Year-Old Boy With Crohn's Disease

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Keywords: Chest Pain; Azathioprine; Infliximab.



Question: A 9-year-old boy presented with an episode of chest pain and recurrent fever. He had a prior history of Crohn's disease (CD) with ileal and colonic involvement diagnosed at the age of 6. Clinical remission was achieved under combination therapy including infliximab (5 mg/kg every 8 weeks) and azathioprine. One year before this episode, he presented with back pain, fever, and inflammatory syndrome (C-reactive protein of 120 mg/L) without any signs of CD relapse. A computed tomography (CT) scan showed a right lung infection with pleural effusion. Amoxicillin treatment was initiated with efficacy on pain, fever, and the biological inflammation.

The current symptoms include severe back and chest pains with no efficacy of oral or local analgesic, fever, and inflammatory syndrome (C-reactive protein of 150 mg/L). There was no sign of CD activity at abdominal ultrasound. Echocardiography, electrocardiogram, chest radiograph, and bone scintigraphy were normal.

A body positron emission tomography (PET)–CT scan (Figure A) showed several foci of hypermetabolism located in the vascular wall of the aorta that could be evocative of an inflammatory disease. Magnetic resonance imaging of the aorta (Figure B) confirmed the presence of an aortitis with an extension to the subaortic trunk and showed a thickening of the vascular walls with hyperintense signals specific for inflammation (T2 and T1 post gadolinium). The narrowing of the abdominal aorta that was nonsignificant (<50%) on the CT scan (Figure C).

Immune-inflammatory tests were unspecific (antinuclear antibody, 1/640; anti-DNA, 55 UI/mL; antiextractable nuclear antigens, negative; rheumatoid factor, negative; HLA B27, negative; angiotensin-converting enzyme, negative). Blood tests for infectious aortitis (syphilis, tuberculosis, bacteria, and fungi) were negative.

Considering the patient's medical history and evolution, what is the diagnosis?

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Conflicts of interest

The authors disclose no conflicts.

Answer to: Image 1: Takayasu Arteritis

The association of Takayasu arteritis (TA) and CD is considered as extremely rare, and mostly occurs in adults, particularly in young women. The association of TA and CD was first reported in 1976 and since then 33 cases have been described, of which there is 1 pediatric case. As there is an overlap between TA and CD with common granulomatous histopathologic lesions, similar biological pathways might be implicated in these conditions.

Differential diagnosis with other inflammatory chest pain includes infectious disease (pneumopathy, spondylodiscitis, endocarditis), other cardiovascular (myocarditis, pericarditis) or rheumatologic (inflammatory rheumatism, fracture) manifestations. In our case, the PET/CT scan made the diagnosis; we suggest alerting the radiologist to this potential diagnosis. A recent comparative study showed the greater potential of ¹⁸F-FDG PET/CT for the detection and extension of large vessels vasculitis, and should be considered as the first-line diagnostic imaging technique.¹

Early therapy contributes to the prevention of TA complications (aortic regurgitation, congestive heart failure, renal hypertension, or stroke). Recent studies have suggested that anti-tumor necrosis factor- α biological therapies were highly effective in treating TA refractory to conventional immunosuppressive therapy (corticosteroids, methotrexate)².

Rarely, TA may develop during anti-tumor necrosis factor- α biological therapies (including infliximab³) for CD. In our patient, infliximab was stopped, and an immunosuppressive treatment was started with corticosteroids and methotrexate. This treatment was successful; the back pains and the inflammatory syndrome disappeared in <1 week and magnetic resonance imaging of the chest 6 months later showed a significant decrease of the inflammatory wall thickening. CD remains in clinical remission.

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