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Unusual Case of Takayasu Arteritis of the Superficial Femoral Arteries without Involvement of the Upper Extremities

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Conflict of Interest
The authors have no financial conflicts of interest.

A 30-year-old Chinese man presented with bilateral calf pain and claudication for the previous month. Investigations revealed elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) and decreased ankle-brachial index in both ankles (right: 0.74; left: 0.56). Anti-nuclear antibody and anti-neutrophilic cytoplasmic antibody were negative, and immunoglobulin G subclass-4 levels were found to be within normal limits. Computed tomography (CT) showed normal branches of the aortic arch (**Figure 1A**) as well as occlusion of the bilateral superficial femoral arteries (**Figure 1B**) and thickening of the abdominal aortic wall. Fluorodeoxyglucose (FDG) positron emission tomography (PET)-CT and ultrasonography were performed (**Figure 2**).

The young age of the patient (< 40 years), presence of claudication and angiographic abnormalities supported a diagnosis of Takayasu arteritis (TAK) according to the 1990

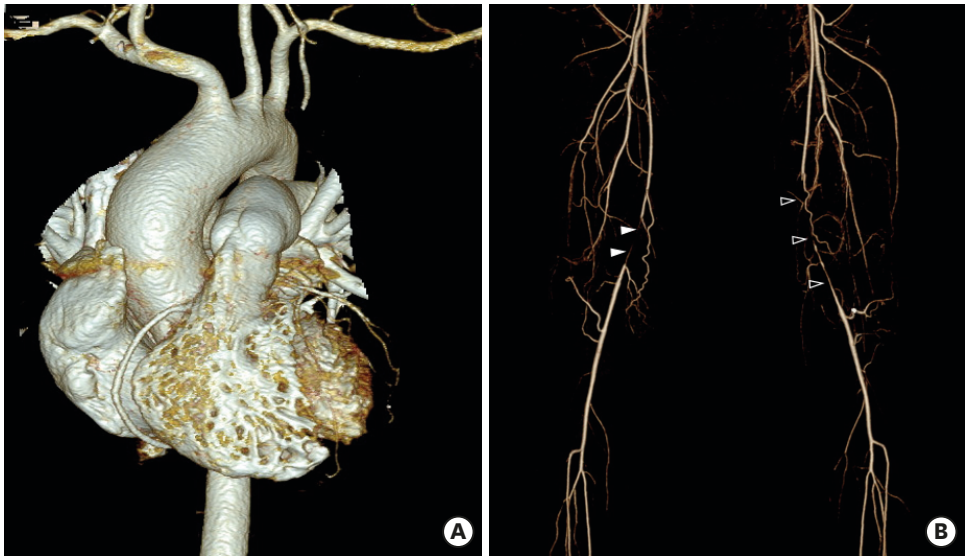

Figure 1. In a 30-year-old man with Takayasu arteritis, computed tomography angiography showed normal branches of the aortic arch (A), segmental occlusion of the right superficial femoral artery (white arrowheads) and long segmental occlusion of the left superficial femoral artery (unfilled arrowheads) (B).

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Author Contributions

Conceptualization: Kim HR; Data curation: Kim SH, Min HK; Investigation: Min HK; Project administration: Kim HR; Supervision: Kim HR, Lee SH; Writing - original draft: Kim SH; Writing - review & editing: Kim HR, Min HK.

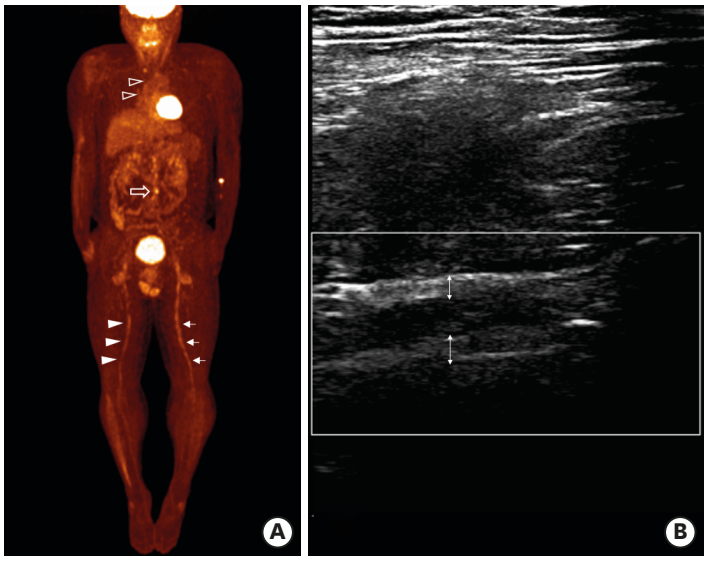

Figure 2. Fluorodeoxyglucose positron emission tomography computed tomography (A) showed low-to-intermediate-grade uptake along the bilateral common femoral arteries to the right superficial femoral artery (white arrowheads), the left popliteal artery (white arrows), and the ascending to descending thoracic aorta (white unfilled arrowhead), and focal areas of high-grade uptake along the abdominal aorta (white unfilled arrow). Ultrasonography (B) of the left superficial femoral artery showed thickening of the arterial wall (double headed arrows) and no Doppler signal was observed in either of the superficial femoral arteries.

American College of Rheumatology criteria.[1] Owing to the partial therapeutic response to prednisolone, methotrexate, and azathioprine, bilateral superficial femoral artery (SFA) angioplasty was performed. After 5 weeks, however, re-occlusion occurred requiring graft interposition surgery for both the femoral and popliteal arteries. Three months post-surgery, claudication and pain in both calves improved, and ESR and CRP levels both normalized.

FDG PET-CT is a good diagnostic tool for detecting large vessel vasculitis before morphological changes appear.[2] This case exhibited vasculitis not involving the branches of the aortic arch or the renal artery, unlike the angiographic classification of TAK.[3] FDG PET-CT enabled evaluation of the inflammation of arteries and diagnosis of a rare case of TAK.[4] This case represents a unique and unspecified classification of TAK of the bilateral SFA detected via FDG PET-CT.

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