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Cardiovascular Imaging In-a-Month

•A 24-Year-Old Woman With a 4-Year History of Skin Lesions and Recent Onset of Hypertension

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CASE

A 24-year-old woman with a 4-year history of skin lesions was admitted to our hospital for investigation of recent onset of hypertension. Physical examination found blood pressure of 168/92 mmHg, and pulse rate of 70 beat/min. Examination of the abdomen revealed a periumblical systolic murmur. Skin lesions, consisting of erythematous indurations with central deep ulcerations, were present mainly on the cheek (**Fig. 1 − left**), neck and extremities (**Fig. 1 − right**).

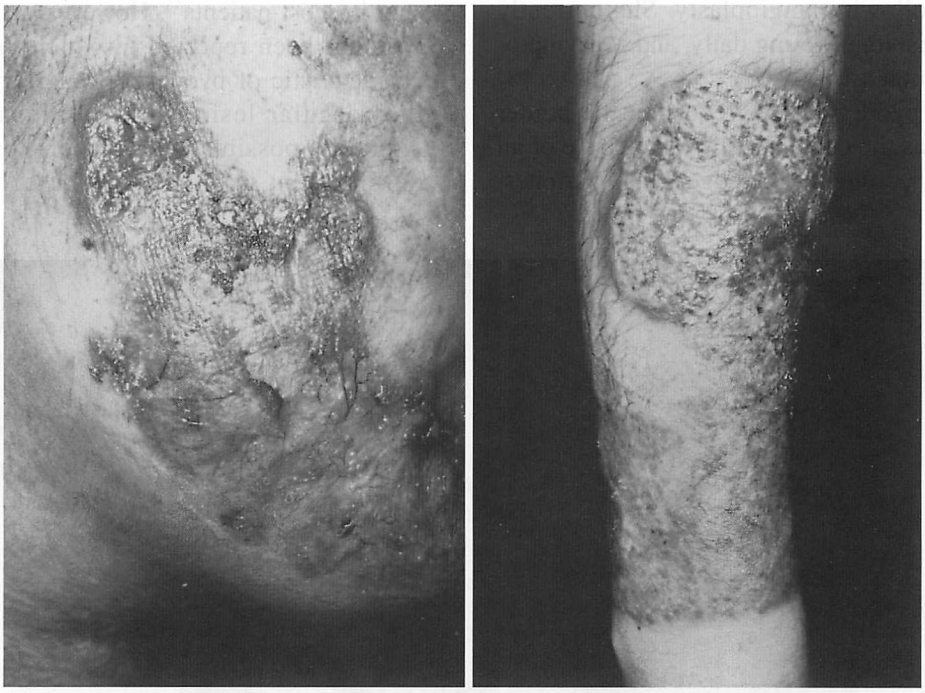

Fig. 1

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Points for Diagnosis

The diagnosis of pyoderma gangrenosum was histologically confirmed by analysis of a biopsy specimen obtained from a skin lesion, and treatment with prednisolone was started. The erythrocyte sedimentation rate and serum C-reactive protein concentration were markedly elevated, and the plasma renin activity was also increased to 5.78 ng/ml/hr (normal range: 0.5−2.0 ng/ml/hr). Digital subtraction aortography showed obstruction of the left carotid artery (**Fig. 2−left**), segmental narrowing of the abdominal aorta, and marked stenosis at the origin of both renal arteries (**Fig. 2−right**). The diagnosis was Takayasu's arteritis. She had hypertension uncontrolled by multiple-drug therapy and angiographic evidence of 99% stenosis of the left renal artery, so percutaneous transluminal renal angioplasty was performed for the left renal artery. The patient became normotensive and the plasma renin activity was decreased to 1.5 ng/ml/hr following angioplasty. She currently receives prednisolone, 15 mg daily, and is asymptomatic and normotensive.

In cases of pyoderma gangrenosum, the border of the ulcers has the characteristic appearance of an undetermined necrotic, bluish edge with a peripheral erythematous halo[1]. The ulcers often begin as pustules which expand rather rapidly, growing as large as 20 cm. Although these lesions are found most commonly on the lower extremities, they can arise anywhere on the body surface. An estimated 30% to 50% of cases are idiopathic, and the most common associated disorders are ulcerative colitis and Crohn's disease. Less commonly, pyoderma gangrenosum is associated with chronic active hepatitis, seropositive rheumatoid arthritis, acute and chronic granulocytic leukemia, polycythemia vera, and myeloma. Less well known is its association with Takayasu's arteritis. Skin lesions, including pyoderma gangrenosum, are estimated to occur in 2.8% to 28.0% of patients with Takayasu's arteritis[2]. Most cases of pyoderma gangrenosum and Takayasu's arteritis are observed in Japan[2], and active Takayasu's arteritis has preceded the manifestations of full-blown pyoderma gangrenosum in most patients[3]. However, at least one other case has been reported in which the skin lesions characteristic of pyoderma gangrenosum preceded the vascular lesions of Takayasu's arteritis[4]. Although possible, this association and clinical development is unlikely to be coincidental and

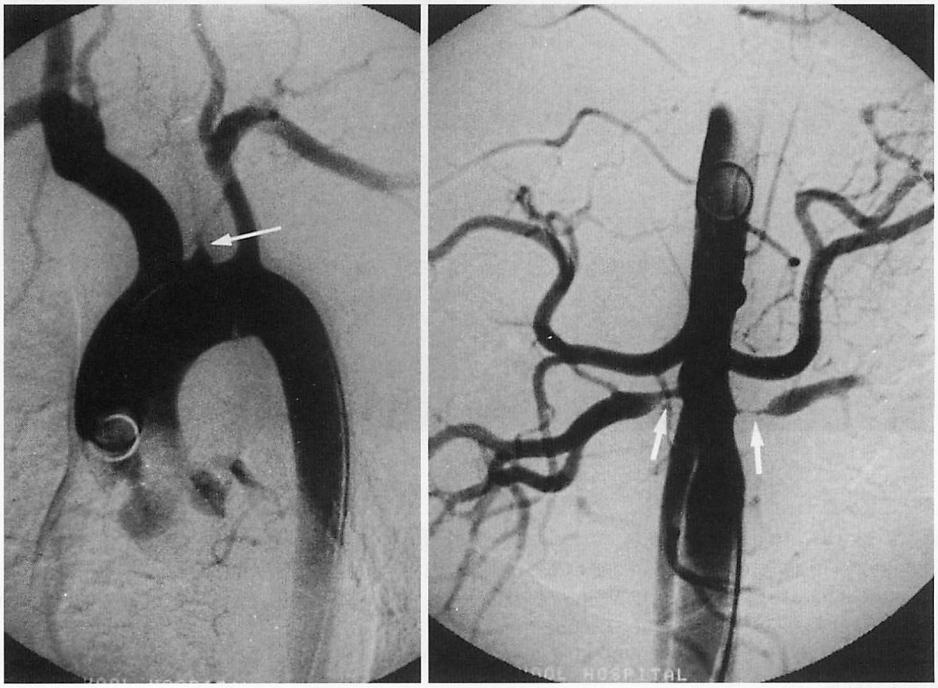

Fig. 2

should alert physicians to consider the diagnosis of Takayasu's arteritis in a patient with pyoderma gangrenosum.

Diagnosis: Takayasu's arteritis associated with pyoderma gangrenosum

References

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Fig. 1 Skin lesions consisting of erythematous indurations with central deep ulcerations are visible on the right cheek (*left*) and the right forearm (*right*)

Fig. 2 Digital subtraction aortograms obtained preoperatively in the patient with Takayasu's arteritis and pyoderma gangrenosum

Obstruction is apparent at the proximal portion of the left carotid artery (*left*; *arrow*). Segmental narrowing of the abdominal aorta and marked stenosis at the origin of bilateral renal arteries are present (*right*; *arrows*).