

Aortic Valve Stenosis Associated with Bazin's Disease

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Bazin's disease, which was first reported in 1861, is described as erythema induratum or nodular vasculitis. The condition is seen occasionally in middle-aged women on the skin of the calf, and a relationship to a tuberculosis infection has been proposed (1). The condition is characterized by neutrophilic vasculitis of the small vessels of the skin. In the present patient, valvular lesions occurred simultaneously with Bazin's disease, with granulomatous changes being demonstrated by the aortic valve pathology.

Case report

A 72-year-old woman, with a diagnosis of Bazin's disease, was referred to the emergency room at the authors' institution, complaining of chest pain and dyspnea. On admission, the patient lost consciousness, whereupon chest X-radiography demonstrated congestive heart failure. Consequently, she was sedated and intubated whilst under respiratory control. The administration of diuretics provided some relief of her symptoms.

On examination, the patient had a systolic/diastolic murmur that was graded as Levine II. Hematologic examination confirmed the presence of mild anemia, and C-reactive protein levels were slightly raised. Cardiac catheterization revealed coronary artery stenosis (artery #2, 99%; artery #6, 75%), whilst aortography demonstrated the presence of aortic regurgita-

tion grade III. In the present patient, valvular lesions occurred simultaneously with Bazin's disease, with granulomatous changes being demonstrated by the aortic valve pathology.

The Journal of Heart Valve Disease 2007;16:212-213

On echocardiography, the pressure gradient between the left ventricle and the ascending aorta was 22 mmHg. Catheterization data obtained by left ventriculography were: left ventricular end-diastolic volume 149 ml; left ventricular end-systolic volume 65 ml; left ventricular ejection fraction 56.4%; and cardiac index 2.31 l/min/m².

Surgery was proposed to treat the aortic stenosis and right coronary stenosis. Cardiopulmonary bypass (CPB) was established in the normal manner. First, the left interthoracic artery was anastomosed to the left anterior descending artery, and the saphenous vein graft was applied to the right coronary artery #3. The ascending aorta was dissected and the aortic valve removed. A Carpentier-Edwards Physio™ valve (19 mm) was inserted into the supra-aortic portion.

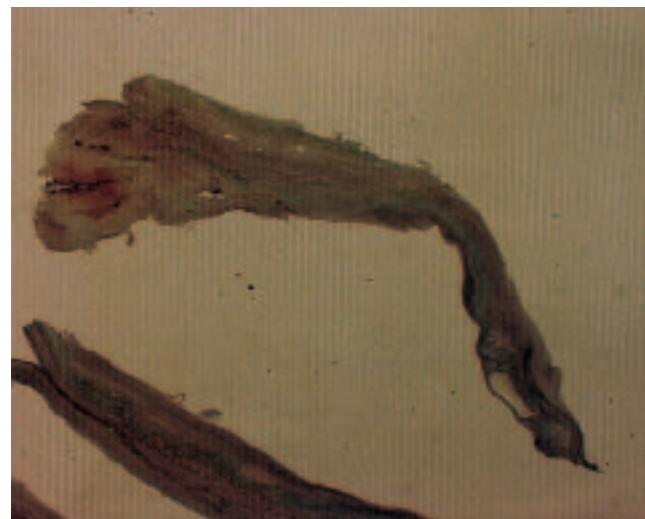


Figure 1: The excised aortic valve cusps; note the marked thickening of the tissue.

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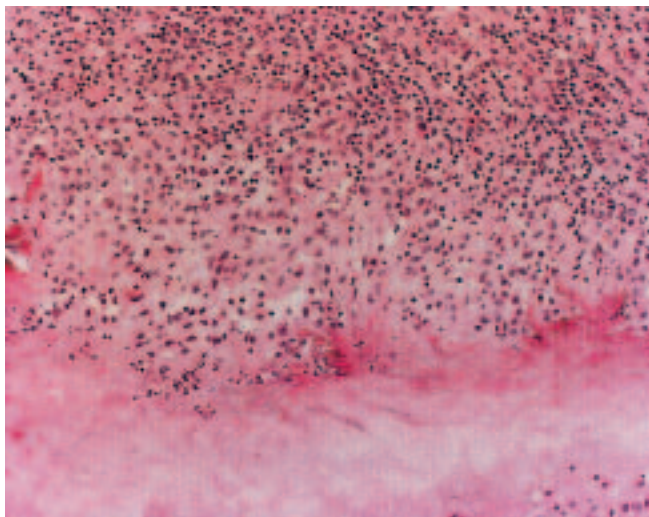


Figure 2: Hematoxylin and eosin staining of sections of the excised aortic valve. Histiocyte infiltration and granulomatous inflammation were observed, but no caseous necrosis was visible.

Aortocoronary bypass was then achieved with the saphenous vein graft.

Weaning from CPB was uneventful. On examination, the resected aortic valve was seen to be trileaflet and to have atypical features. No adhesion was observed in the valve commissures, as is often seen with rheumatic valves (2). No erosion of the cusps was found that could be deemed specific to active aortitis or Behçet's disease, although each valvular cusp was markedly thickened (Fig. 1). The pathology of the aortic valve demonstrated fibrous thickening with granulomatous inflammation and small-vessel vascularization into the thickened valvular cusp. No caseation necrosis was observed, which indicated non-acute phase inflammation (Fig. 2).

Discussion

Bazin's disease, which is described as erythema induratum or nodular vasculitis, is seen occasionally on the skin of the calves of middle-aged women, and a

causative relationship to tuberculosis infection has been proposed (1). This disease is characterized by neutrophilic vasculitis of the small vessels of the skin. The present patient had been diagnosed previously with Bazin's disease, but the skin lesions had been healed by treatment with antibiotics (isoniazid and rifampicin). To the present authors' knowledge, the present case is the first to be reported with valvular lesions occurring simultaneously with Bazin's disease, whereby granulomatous changes were observed on pathological examination of the aortic valve.

A number of similar reports have been made with regards to the valvular disease and the skin lesions. For example, Sweet's disease is characterized by acute neutrophilic dermatosis, and causes acute valvulitis (3,4). Although the present patient demonstrated a different etiology from that of Sweet's disease, the case showed some similarities, mainly that the skin lesion accompanied the valvular disease, and that the dermal microvessels were invaded with inflammatory cells.

At one year postoperatively, paravalvular leakage of the replaced prosthetic valve in the aortic position was found on echocardiographic examination at regular follow up. It follows that further inspections are required with regards to the relationship to Bazin's disease.

References

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