Valvular Stenosis Produced by Active Infective Endocarditis

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SUMMARY
Two patients with obstructed valve orifices secondary to infective endocarditis are described. In one patient the mitral valve orifice was obstructed by large streptococcal vegetations, and in the second, the aortic valve orifice was obstructed by fungal vegetations. The occurrence of obstructive valvular lesions secondary to infective endocarditis is rare.

Additional Indexing Words:
Mitral stenosis Aortic stenosis Fungal vegetations
Streptococcal vegetations

The development of valvular regurgitation is a well-recognized complication of active bacterial or fungal endocarditis. The development of valvular stenosis during active infective endocarditis, on the other hand, has not been described previously. In two patients with such endocarditis whom we have studied, however, valvular stenosis developed.

One, a 21-year-old woman, who had had acute rheumatic fever at the age of 10 years, developed beta hemolytic streptococcal (group B) endocarditis 3 months following a full-term pregnancy with normal delivery, and died a month later. At necropsy, a vegetation was found that nearly filled the mitral orifice (fig. 1). Examination before death had disclosed a short apical diastolic murmur as well as a grade III/VI blowing apical pansystolic one. She died of a large intracerebral hemorrhage.

The second patient, a 26-year-old narcotic addict, died of Candida parapsilosis endocarditis after an 11-month illness. On examination, a loud ejection-type systolic murmur had been audible along the left sternal border, and at necropsy large vegetations partially occluded the aortic valve orifice (fig. 2).

Even though hemodynamic confirmation of valvular stenosis was not obtained in these patients, the degree of valvular obstruction by vegetative material was judged to be severe at necropsy. In neither patient was valvular obstruction by the vegetations suspected clinically. One patient had a mildly scarred but probably functionally normal mitral valve secondary to rheumatic involvement before the appearance of streptococcal endocarditis. Fungal endocardial vegetations tend to grow larger than bacterial endocardial vegetations, and this feature appears to have been important in the second patient. In each of the two patients the vegetations alone were entirely responsible for narrowing the valve orifices.

References
Streptococcal endocarditis of the mitral valve occluding the mitral orifice. (Left) Diagram demonstrating the size of the vegetation relative to the size of the left atrium (L.A.), mitral orifice, and left ventricle (L.V.). (Upper right) Infected thrombotic material (T.) as viewed from the left atrium. The orifice is partially obstructed by the vegetative material which is adherent primarily to the left atrial wall. (Lower right) Opened left ventricle (L.V.), aortic valve (A.V.), and aorta in the same patient demonstrating the large infected thrombus (T.) protruding into the left ventricular cavity. The chordae tendineae from the posterior half of the anterior mitral leaflet have been ruptured by the infective process (not shown).
Candida parapsilosis endocarditis of the aortic valve. (Left) Aortic valve as viewed from above. The orifice is obviously obstructed by the large vegetations. (Right) The same aortic valve is now opened. Large vegetations are adherent to the ventricular aspects of each of the three aortic valvular cusps. The arrow points to the ostium of the left coronary artery. Vegetative material containing Candida organisms entered this vessel, obstructed the left anterior descending coronary artery, and produced a large myocardial infarct.
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