Aortic valve repair with fibrin glue for type A acute aortic dissection.

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Abstract:

Repair of the acute aortic insufficiency associated with type A aortic dissection is now preferred to valve replacement. This is generally achieved by resuspending the aortic valve using different types of suturing techniques, with sutures usually passing through the aortic wall, which causes bleeding at the suture sites. We suggest, instead, simply injecting fibrin glue between the two dissected layers of the aortic annulus, which achieves resuspension of the aortic valve and reinforces the proximal stump without the need for any sutures. To evaluate the efficacy of this simple technique, the cases of 15 consecutive patients who underwent operative intervention for the treatment of the type A aortic dissection associated with acute aortic insufficiency between January 1989 and July 1993 were reviewed. The mean patient age was 63 +/- 11.2 years (range, 43 to 74 years). All had massive 3+ or 4+ aortic insufficiency, documented preoperatively by transesophageal echocardiography. None had any history of aortic regurgitation. In all patients, the aortic repair was done in conjunction with a supracoronary replacement of the ascending aorta with a collagen-impregnated graft attached using a running suture, after reinforcement of the dissected tissues with glue. There was one non-valve-related early death (6.7%) and no late mortality. At a mean follow-up of 2.3 years, all patients were in New York Heart Association functional class I and had a mean aortic insufficiency grade of 0.3 (range, 0 to 1+). Follow-up computed tomography in all patients showed closure of the dissecting process on the proximal ascending aorta. These results suggest that the use of fibrin glue may represent a simple and effective technique for repairing the acute aortic insufficiency associated with aortic dissection. This technique facilitates performance of the operation, reduces the operative time, avoids the need for suturing during aortic valve repair

which can make the aortic wall fragile, and reinforces dissected tissues before replacement of the ascending aorta.