Repair of the aortic arch with fibrin glue in type A aortic dissection.

Authors: Seguin J.R., Picard E., Frapier J.-M., Chaptal P.A., Miller, Lansman S.L., Frantz, Ergin M.A., Vaislic

Publication Date: 1994

Abstract:

Location of the intimal tear in the aortic arch in type A aortic dissection is for many authors an indication for replacement of the aortic arch, but this operation has a high in-hospital mortality rate: 20% to 40%. Instead, we suggest repairing the aortic arch by injecting fibrin glue, which contains a human sealer protein concentrate, between the two dissected layers under circulatory arrest while replacing the ascending aorta. To evaluate this technique, we reviewed 45 successive patients operated on for type A acute aortic dissection between January 1989 and July 1993, of which 6 had the intimal tear located on or extending into the aortic arch. Mean age was 71 +/- 4.2 years (range 68 to 74). After proximal supracoronary anastomosis with a collagen-impregnated graft, aortic arch repair was achieved by injecting fibrin glue between the two layers, using circulatory arrest at a mean temperature of 22degreeC, with a mean duration of 24 minutes. This obliterated the dissection in the arch and also the intimal flap. The distal part of the graft was then anastomosed to the proximal portion of the aortic arch at the origin of the innominate artery under circulatory arrest. There were no early or late deaths. All patients were asymptomatic at a mean follow-up of 2.6 years. Follow-up angioscan showed obliteration of the dissection in the aortic arch in all patients; there were two patients with dilatation of the distal aortic arch of 40 and 45 mm. These results suggest that repair of the aortic arch with fibrin glue facilitates surgery, reduces operative time, and has a lower mortality rate than aortic arch replacement. The risk of possible reoperation for arch replacement is largely balanced by the good immediate and late results reported here.