Repair of experimental atrial rupture with fibrin glue.

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Abstract:

Ten cases of experimental atrial rupture were created in five pigs by cutting into both atria. The defects measured approximately 3.0 x 1.0 cm. Bleeding was stopped by applying a tangential clamp and the defect in the atrium was sealed with fibrin glue (mean volume 2.0 ml, range 1.5-2.5 ml) with a mean fibrin concentration of 23 mg/ml. The mean pressures in the atria were 11 cmH<inf>2</inf>O in the left and 10 cmH<inf>2</inf>O in the right atrium. The clamp was released after 5 min and the atria were observed for bleeding for 30 min. In four animals, immediate haemostasis was obtained. In one animal, both atria leaked after release of the clamp because too little fibrin glue was applied, but complete haemostasis teas obtained at a second attempt. All experimental atrial defects could be sealed with fibrin glue (P = 0.03), and we believe, based on our experimental results, that fibrin glue may have a place in emergency cases to improve the management of atrial injury. In conclusion successful repair of experimental atrial rupture was performed by the use of fibrin glue.