Effects of fibrin sealant on single-layer uterine incision closure in the New Zealand white rabbit.

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Abstract:

Objective: To determine if the addition of fibrin sealant to incision closure in a rabbit uterine horn myomectomy model affects adhesion formation or strength of incision closure. Design: Prospective randomized controlled trial. Setting: Academic research center. Animal(s): New Zealand white female rabbits. Intervention(s): A pilot study revealed that the time interval for maximal uterine incision healing was eight weeks. Thirty New Zealand white rabbits underwent a 1-cm standardized myotomy incision on both uterine horns. A single interrupted stitch of 3-0 polygalactin suture was placed to reapproximate each incision. Fibrin sealant was then applied to one of each rabbit's horns (randomized). After eight weeks, the rabbits were killed, and the strength of myotomy closure was determined by measurement of maximal burst pressure for each uterine horn. Adhesion presence was recorded. Main Outcome Measure(s): Uterine burst pressure, adhesion presence. Result(s): The mean burst pressure was 267.8 (+/-75.8) mm Hg in the suture only group and 247.8 (+/-92.3) mm Hg in the suture and fibrin sealant group. There was no statistical difference in the presence of adhesions. Conclusion(s): Fibrin sealant did not strengthen myotomy repair nor did it reduce postoperative adhesion formation. There is no apparent advantage to fibrin sealant in this myomectomy model.