A technique for placement of a bioabsorbable prosthesis with fibrin glue fixation for reinforcement of the crural closure during hiatal hernia repair.

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Abstract:

Introduction Level 1 data suggest that mesh reinforcement of the crural closure for hiatal hernia repair decreases the recurrence of hernia. The fear of erosion of the prosthetic into the esophagus has kept the use of mesh for hiatal hernia repair from becoming routine. A recent study found several cases of esophageal stenosis/erosion from the use of a biologic mesh. For these reasons, we evaluated a new resorptive prosthetic and new method of fixation of the prosthetic for crural reinforcement during hiatal hernia repair. Methods From February 2009 until December 2010, 70 patients underwent hiatal hernia repair using a synthetic bioabsorbable prosthetic made of polglycolide and teimethylene carbonate (Gore BioA Tissue ReinforcementTM, Flagstaff, AZ). There were 48 patients with paraesophageal hiatal hernias and 22 with large sliding hiatal hernias. In this study, a square piece of mesh just the size to cover the crural closure only was utilized. Fibrin glue (TisseelTM) was applied over the suture closure of the crura, the mesh was then placed over the glue and held in place for several seconds, and then more fibrin glue was applied on top of the mesh. Results The new bioabsorbable polymer mesh was readily placed through a 10-mm trocar, had good handling characteristics laparoscopically, and no pre-operative preparation was required of the prosthetic. The material and the fibrin glue created a very substantial reinforcement of the crural closure, and the average time to place and fix the mesh was approximately 5 min. There were no shortterm complications from the mesh, and no patient has had any significant post-operative sequelae. Conclusion Crural closure reinforcement during hiatal hernia repair can be done readily

with this new bioabsorbable polymer-based mesh. Fibrin glue fixation of this new prosthetic can be done quickly and it creates a strong, fixed barrier that may decrease the chance of erosion. Further studies will need to be done to evaluate long-term efficacy and complications associated with its use.