

Response to: Comment on “Laparoscopic Paraesophageal Hernia Repair: to Mesh or Not to Mesh”

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The real benefit of using a mesh during a hiatal hernia repair is still a matter of controversy. Mesh reinforcement of the crura could theoretically reduce recurrence rates by integrating into the tissue, increasing collagen deposition, and ultimately providing stability to the scar and durability to the repair. Initially, randomized trials evaluating the use of synthetic mesh (eg polytetrafluoroethylene and polypropylene) showed a significant reduction in recurrence rates as compared to simple cruroplasty.^{1,2} The onset of complications related to the use of a permanent mesh around the esophagus later discouraged its use in the surgical community. In 2006, a multicenter trial showed promising results with the use of biologic prosthesis.³ A resorbable mesh could potentially reduce recurrence risks without increasing the risk of serious complications. Unfortunately, the long-term results of the trial showed no benefits, with the use of mesh.⁴ Several other trials evaluating diverse types of prosthesis were then conducted, with conflicting results.^{5–8}

In an attempt to better elucidate the risks and benefits of using a mesh, we performed a meta-analysis of randomized trials comparing primary repair alone versus mesh.⁹ We found similar early (≤ 6 months) and late (> 6 months) recurrence rates with either mesh reinforcement or suture-only repair, irrespective of the type of mesh utilized. Regarding complications, our study demonstrated that overall morbidity was higher in patients repaired with nonabsorbable mesh.⁹ Aiolfi et al¹⁰ recently commented on our study and manifested that some data misinterpretation might have led to the misunderstanding of outcomes, mainly due to the lack of uniform definitions of recurrence and significant heterogeneity among trials. We strongly agree with the authors that these inconsistencies limit the results of both our analysis and previous trials. In fact, methodological design discrepancies and heterogeneity in inclusion criteria/outcomes were explicitly included in the limitations section of our study. Aiolfi et al¹⁰ analyzed both anatomic and symptomatic recurrences, excluded patients lost to follow-up, performed a one-to-leave-out sensitivity analysis, and found lower recurrence rates after mesh-reinforced cruroplasty.¹⁰ They concluded that in

selected patients, the use of a resorbable synthetic mesh has the potential to reduce early recurrence rates. However, their conclusion is not fully supported by their analysis, which included studies with diverse types of mesh and different follow-ups.

Another issue is the lack of trials evaluating the performance of newer biosynthetic prosthesis (polyglycolic acid + trimethylene carbonate/poly-4-hydroxybutyrate), which are now mostly used. The analysis gets even more complex when we consider numerous variables related to outcomes beside the use or not of mesh. Patients characteristics (age, comorbidities, body mass index, etc.), hernia size and type, quality of crural muscle, crural closure technique, and type of fundoplication are all relevant factors that influence postoperative results. Rather than trying to define if the mesh is yes or no, we should probably encourage further research focusing on patient selection, including all the aforementioned variables. There is a potential beneficial role for mesh reinforcement in selected patients, and the key is determining which patients benefit the most from this practice.

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