

Title: Routine Use of Bioprosthetic Mesh is Not Necessary

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Abstract

Background: Mesh reinforcement of a midline ventral hernia repair has been shown to minimize recurrence, but there is debate over which material offers the best combination of strength and complication profile. The Ventral Hernia Working Group (VHWG) recently proposed a grading system to assist surgeons in selecting the appropriate mesh based on an individual patient's risk of developing a postoperative complication. Using this instrument, the VHWG suggests an advantage to the use of bioprosthetic mesh for all but low risk patients, and recommends against the use of synthetic material due to concerns for increased rates of infection, adhesions, and enterocutaneous fistulae¹. In this study, the VHWG grading scale was used to evaluate the incidence of these complications in 100 consecutive midline ventral hernias repaired with uncoated mid-weight polypropylene mesh.

Methods: A retrospective review was conducted of 100 consecutive cases of midline ventral hernia repair using an intra-abdominal underlay of uncoated mid-weight polypropylene to reinforce a direct repair or components separation between July 2005 and May 2010. There were no "bridged" repairs. In all cases, the width of the mesh was 8 cm for the length of the repair. The average duration of follow-up was 26 months.

Results: The mean BMI of the study population was 31.8 kg/m², with an average hernia diameter of 9.6 cm. Graded according to the VHWG scale, 51 percent of cases were considered Grade 2 ("co-morbid"), with 25 percent considered Grade 3 ("potentially contaminated"). The remaining cases were Grade 1 ("low-risk"). Overall, there was a 7 percent rate of hernia recurrence. There were no enterocutaneous fistulae or infections requiring mesh removal. Two patients were admitted for post-operative small bowel obstructions. Both patients improved with conservative management and neither patient required reoperation.

Conclusion: The use of uncoated polypropylene mesh for reinforcement of midline ventral hernia repairs was not associated with increased rates of infection, fistula formation, or clinically significant adhesions. These findings challenge the recommendation by the VHWG to avoid synthetic repair material in patients with co-morbidities or in "potentially contaminated" fields.

1. Breuing K, Butler CE, Ferzoco S, Franz M, Hultman CS, Kilbridge JF, Rosen M, Silverman RP, Vargo D. Incisional ventral hernias: review of the literature and recommendations regarding the grading and technique of repair. *Surgery*. 2010; 148: 544-558.