

Management of Acute and Chronic Loss of Abdominal Domain Using Early Peritoneal Cavity Expansion with the Wittmann Patch as an Adjunct in Abdominal Wall Reconstruction

Abstract:

Introduction: The large, refractory ventral hernia presents a distinct challenge to the reconstructive surgeon. While a plethora of techniques are available for ventral hernia repair (VHR), these may fall short in the face of chronic near-total loss of abdominal domain. The Wittmann patch (Star Surgical, Burlington, WI) has been described in the literature as an acute method of maintaining abdominal wall integrity with planned re-laparotomy. However, we demonstrate that it is also an effective adjunct to traditional methods of abdominal wall reconstruction (AWR) in the management of chronic loss of abdominal domain.

Methods: All patients at the senior authors' institutions who underwent Wittmann patch placement with subsequent AWR were retrospectively reviewed. Data collected included patient demographics, co-morbidities, prior abdominal surgeries including previous AWRs, operative reports, and post-operative follow-up. Descriptive statistics were used as appropriate for data analysis.

Results: Seven patients underwent AWR with Wittmann patch placement by the senior authors. For patients with available data, the average number of prior abdominal operations was 4.33 and the average number of previous failed AWRs was 2.67. The average greatest dimension of the hernia defect was 17.5 centimeters. The time from Wittmann patch placement to removal and definitive AWR was 16.2 days. For patients with available data, average hospital stay after placement of the Wittmann patch was 24.3 days and patients were discharged home an average of 5 days after definitive VHR. Average follow-up for six patients was 12.1 months. After placement of the Wittmann patch, there were no instances of abdominal compartment syndrome

(ACS). There have been no recurrent hernias, 1 wound infection managed with oral antibiotics, 1 seroma, and 2 post-operative deep venous thromboses (DVT). There have been no instances of enterocutaneous (EC) fistulae.

Conclusions: The Wittmann patch, or a similar device, is an effective adjunctive technique in acute loss of abdominal domain that may safely be added to the surgeon's armamentarium for the management of chronic ventral hernias with near-total loss of abdominal domain.