

Reduction in anastomotic leak rates by the use of dehydrated human amnion chorion membrane (DHACM) in low anterior resections for diverticulitis

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INTRODUCTION

Anastomotic leaks following colorectal surgery represent a significant postoperative complication with devastating if not truly lethal consequences.¹ This complication is associated with severe morbidity and mortality. Large patient series have demonstrated that this event can occur in as much as 7% of colon anastomosis surgeries and as much 9% of anastomoses in Low Anterior Resections (LAR).²⁻⁵ Although there is much literature regarding the risk factors and consequence of this complication, few attempts have been made using adjunct techniques to ameliorate this problem. The aim of this study was to evaluate the use of dehydrated human amnion and chorion membrane (DHACM)* to reduce the incidence of this complication.

MATERIALS AND METHODS

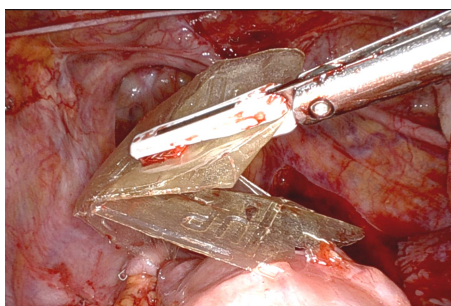
A systematic review was made of a single surgeon's two-year experience utilizing DHACM to wrap his colonic anastomoses at the time of primary surgical repair in LARs performed for diverticulitis. Eighty-five patients underwent colonic resections with anastomoses wrapped in DHACM. The leak rate was then compared to the surgeon's leak rate prior to the use of DHACM.

This is a five-year retrospective cohort study conducted to evaluate DHACM as a surgical adjunct to colorectal anastomoses to reduce the leak rate. This investigation focused on Low Anterior Resections performed for diverticulitis. Two patient cohorts (before- and concurrent with DHACM utilization) were defined using the same objective criteria.

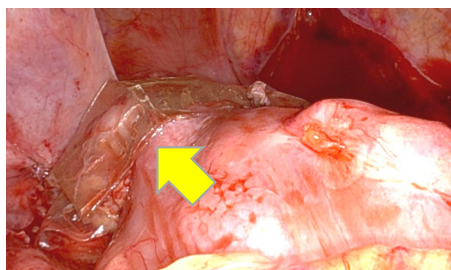
*DHACM = AMNIOFIX® (MIMEDX Group, Inc., Marietta, GA, USA)

†Poster modified from originally submitted abstract

MATERIALS AND METHODS



Dehydrated human amnion and chorion membrane (DHACM)

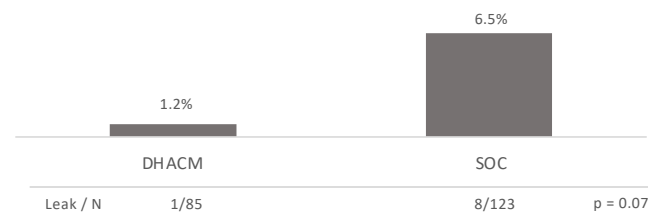


A 2 cm x 12 cm sheet of DHACM was cut into two 2 cm x 6 cm pieces. One piece was placed robotically onto the anterior aspect of the anastomosis and the second piece was placed on the posterior aspect.

RESULTS

Anastomotic leaks developed in 8 patients over 123 surgeries prior to the adoption of DHACM wrapping of the anastomosis for a leak rate of 6.5%. One of the 85 patients developed anastomotic leak in the surgeries where DHACM wrapping of the anastomosis was used for a leak rate of 1.2%. This finding demonstrated a clinical signal with p-values of 0.07 using a Chi-square test.

Anastomotic Leak Rate Post-LAR Surgery for Diverticulitis: DHACM vs. Standard of Care (SOC)



CONCLUSION

Patients treated with DHACM experienced a reduced number of anastomotic leaks in Low Anterior Resections performed for diverticulitis and may experience a reduction in the length of stay and/or the need for re-admission. While this analysis did not achieve statistical significance in this limited dataset, a clinical signal was observed. A larger evaluation is warranted see if this clinical signal achieves statistical significance.

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