

Background

- Despite many advances in surgical techniques, anastomotic leaks remain a challenge for surgeons and a devastating postoperative complication for the patient.
- Patients with anastomotic leaks have higher lengths of stay, higher mortality rates, higher readmission rates, more reoperations, and an overall negative impact on quality of life.¹
- Literature suggests that specifically colocolonic and colorectal anastomosis leak rates are as high as 3-6% and 7-13% respectively.²
- Hydrated Human Amnion Membrane Allograft (HHAMA) is a minimally manipulated, cellular amnion membrane allograft that is chorion free.** Data indicates that such amniotic products contain essential growth factors, mediate cytokine/inflammation response, enhance healing and positively alter tissue reconstruction.
- FDA approved (2016) and is intended for reconstruction, repair or replacement of a donor recipient's tissue. This placental allograft is free of chorion – the portion which contains donor DNA and theoretically can transfer disease to the recipient.
- Previously published studies have described successful use of similar human derived allografts in wound healing, gynecologic, urologic and neurosurgical applications.
- To date there are no studies evaluating the role of human derived placental amniotic specifically chorion free allograft in potentially reducing anastomotic leak rates.

Objective

- Our group hypothesized whether reinforcing colo-colonic and colo-rectal anastomoses intra-operatively with HHAMA could decrease anastomotic leak rates.

Methods

- In our surgical practice we began to reinforce all colocolonic and colorectal anastomoses with HHAMA amniotic tissue derived allograft. We present our initial experience with the first 15 cases.
- All patients were randomized to a single control group, regardless of BMI, diagnosis, co-morbidities, age or ASA (American Society of Anesthesiologist) class. This cohort included emergent and elective cases.
- Patients were evaluate postoperatively at 2 weeks and 3 months. No exclusion criteria utilized.
- Cases reviewed included both emergent and elective resections.
- Complications, specifically presence of anastomotic leak, were retrospectively analyzed.

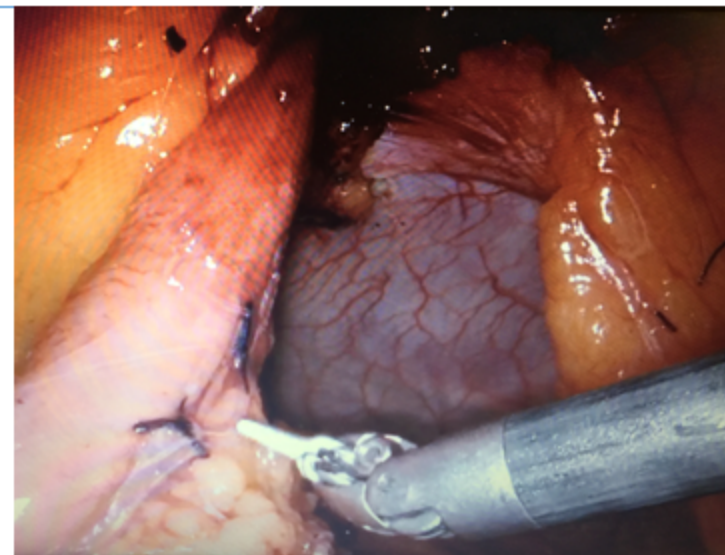
Preliminary Results

- A total of 15 cases involving colocolonic or colorectal anastomosis were performed over a 3-month period.
- Mean age was 62.5 (46–84), mean BMI was 31 (20–50) and mean ASA was 3 (2–4). Total operative time was 68 minutes (25–130 minutes).
- The patient cohort diagnosis breakdown was 6 (40%) with inflammatory disease (acute and chronic diverticulitis) and 9 (60%) with malignant process. Diagnosis was confirmed by post-operative pathology report.
- There were no anastomotic leaks in patients with either type of anastomosis.

Clinical Characteristics

Age (years)	62.5 (46 – 84)
BMI (kg/m ²)	31 (20 – 50)
ASA Class	3 (2 – 4)

Data presented as mean (min – max).



Laparoscopic application of HHAMA to colonic anastomosis

Conclusions

- Reinforcing colocolonic and colorectal anastomoses with HHAMA is safe to perform on any patient requiring colorectal surgery regardless of diagnosis, BMI, age and ASA and may be effective at reducing the risk of anastomotic leaks.

References

- Hammond J, Lim S, Wan Y, Gao X, Patkar A. The burden of gastrointestinal anastomotic leaks: an evaluation of clinical and economic outcomes. *J Gastrointest Surg.* 2014 Jun; 18 (6): 1176-85
- Phillips B. Reducing gastrointestinal anastomotic leak rates: review of challenges and solutions. *Open Access Surgery.* 22 January 2016 Volume 2016:9 Pages 5-14