University Medical Center New Orleans
LCMC Health

# The Use of Autologous Fenestrated Cutis Autograft in Ventral Hernia Repair using Laparoscopic Extended Totally Extraperitoneal (ETEP) Technique: A Single Surgeon Case Series

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## BACKGROUND AND OBJECTIVES

The benefits of retrorectus mesh hernioplasty ventral hernia repair have been well established. The development of new laparoscopic and robotic strategies for retrorectus mesh placement have recently been reported. We report the use of fenestrated cutis autograft in ventral hernia repair using laparoscopic ETEP technique.

## METHODS

Patients who underwent laparoscopic ETEP ventral hernia repair using fenestrated cutis autograft between 2019 and 2020 were identified. Cutis autograft was harvested from the lower abdomen or the inguinal region. The epidermis was then removed from the dermal autograft. The graft was then fenestrated using an 18g needle, and soaked in bacitracin solution prior to its introduction in the retrorectus space..

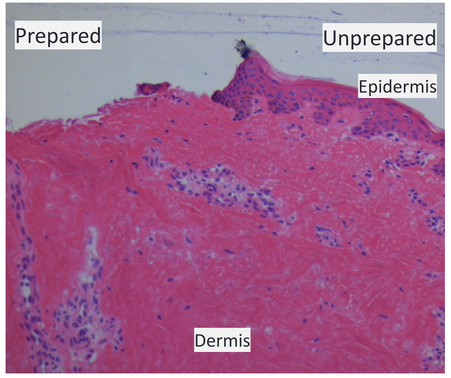
Patient demographics and comorbidities were reviewed. Operative and post-operative information including surgical time, size of the defect, size of the autograft, harvest location, length of stay, length of follow up and the incidence of surgical site infection were reviewed. Descriptive analyses were performed.

Table 1.

| | | |
|---|---|---|
| **A. Demographics** | | |
| Age (Years)* | | 45 (29 - 59) |
| Gender | | |
| | Male | 40% (2) |
| | Female | 60% (3) |
| Body Mass Index (kg/m2)* | | 35.9 (17 - 55) |
| ASA Score | | |
| | I-II | 20% (1) |
| | III-IV | 80% (4) |
| Prior Hernia Repair | | 0% (0) |
| Hypertension | | 60% (3) |
| Diabetes | | 60% (3) |
| History of Smoking | | 40% (2) |
| Coronary Artery Disease | | 20% (1) |
| Chronic Obstructive Pulmonary Disease | | 20% (1) |
| Congestive Heart Failure | | 20% (1) |
| Immunocompromise | | 20% (1) |
| **B. Operative Findings** | | |
| Surgical Time (Minutes)* | | 209.6 (178 - 228) |
| Estimated Blood Loss (cc)* | | 72 (10 - 150) |
| Defect Area (cm)* | | 40.2 (4 – 72) |
| Autograft Size ($cm^2$)* | | 197.4 (60 – 416) |
| Harvest Location | | |
| | Inguinal | 40% (2) |
| | Abdominal | 60% (3) |
| **C. Post Operative Course** | | |
| Length of Stay (Days) | | 3.4 |
| Surgical Site Infection | | |
| | Superficial | 0% (0) |
| | Deep | 40% (2) |
| | Organ Space | 0% (0) |
| Length of Follow up (Weeks) | | 9.2 |

* Average (Min - Max)




## RESULTS

Five patients were included in the analysis. Demographics and comorbidities are described in Table 1a. The average age was 45 years, and the average BMI was 35.9kg/$m^2$. 80% of the patients had ASA score of III or higher.

The average time to perform the operation was 209.6 minutes, and the average blood loss was 72cc. The average defect size was 40$cm^2$, and the average autograft size was 197.4$cm^2$. The average length of stay was 3.4 days, and the average length of follow up was 9.2 weeks. Two patients (40%) developed a deep surgical site infection that were treated with radiologic drainage. Removal of the autograft was not required. There was no recurrence during the follow up period.

## CONCLUSIONS

The use of cutis autograft using laparoscopic ETEP is technically feasible and serves as a potential tool for ventral hernia repair for higher risk patients as described in this cohort.

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