

Robotic Assisted Laparoscopic Hiatal Hernia Repair with a Next Generation Decellularized Dermal Allograft for Soft Tissue Reinforcement

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Surgical Summary

Clinical Presentation:

- A 70-year-old female referred with gastroesophageal reflux disease (GERD) and hiatal hernia.
- Longstanding history of reflux and dysphagia.
- Barium swallow and esophageal manometry revealed a 2.8 cm sliding hiatal hernia.
- Esophagogastroduodenoscopy (EGD) showed a Hill Grade IV hiatal hernia.
- Decision made to proceed with diagnostic laparoscopy, robotic-assisted laparoscopic hiatal hernia repair with DermaPure[®] decellularized dermal allograft for soft tissue reinforcement.

Intraoperative Findings:

- A small to moderate hiatal hernia, measuring 5 cm x 7 cm.

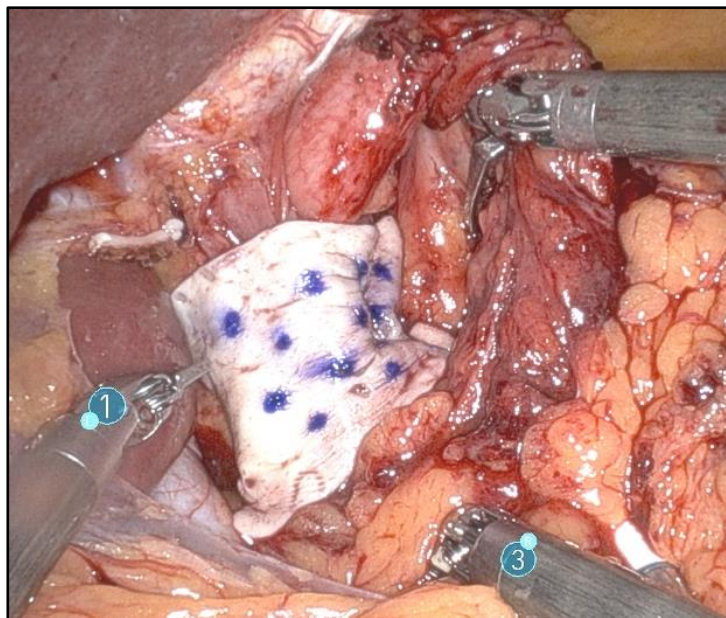


Figure 1. Placement of DermaPure[®] for soft tissue reinforcement.

Surgeon Perspective:

"Complex hiatal hernias, especially large paraesophageal hiatal hernias, have a very high recurrence rate. Studies have shown that the recurrence rate could be anywhere in the range from 12% to 42%¹. I elected to use DermaPure[®] biologic matrix as a reinforcement to my hiatal hernia repair to ameliorate the risk of recurrence in my patients."

1. Horgan S, Eubank TR, Jacobsen G, et al. Repair of paraesophageal hernias. Am J Surg. 1999;177:354-458

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DERMA [PURE]
dCELL technology

Surgical Procedure:

- The patient was placed in a supine position on the operating table. General anesthesia was administered, and the abdomen was prepped/draped in the usual sterile fashion. Received 2 grams intravenous (IV) Ancef perioperative antibiotic coverage.
- A 5 mm incision was created in the left upper quadrant. A 5 mm Optiview® trocar was introduced under direct visualization utilizing a 5 mm 0-degree scope.
- The abdomen was insufflated to 15 mm/Hg using CO₂. General exploration of the abdominal cavity was undertaken. Four da Vinci Xi® ports were placed, one on the right and left upper quadrant and one to the right and left of the umbilicus. An AirSeal® was placed below the umbilicus.
- A stab incision was created in the epigastrium and a Nathanson liver retractor was then placed in the left lateral segment of the liver and was retracted. The patient was then placed in reverse Trendelenburg position at 18 degrees. The da Vinci Xi® was docked in standard fashion.
- The lesser curvature of the stomach was mobilized by coming across the gastrohepatic ligament. The right crus of the diaphragm was identified. The lesser curvature of the stomach was mobilized away from the right crus. The parietal peritoneum overlying the gastroesophageal junction (GE) was taken down. The gastric cardia was mobilized away from the left crus of the diaphragm.
- Proceeded to reduce the stomach and the gastroesophageal junction (GE) below the esophageal hiatus. A small to moderate size hiatal hernia measuring 5 cm x 7 cm was identified in the posterior aspect.
- Once confirmed that the gastroesophageal junction (GE) was below the esophageal hiatus, the defect was closed using 2-0 V-Loc® in a running interlocking manner.
- A 4 cm x 6 cm DermaPure® decellularized dermal allograft was placed for soft tissue reinforcement (Figure 1 & 2). VistaSeal® fibrin sealant was sprayed. The abdomen was desufflated. The da Vinci Xi® was undocked. The incision was closed with 4-0 Monocryl® in a subcuticular manner.

DermaPure® Implantation
4 cm X 6 cm
Basement Membrane Outer-Most

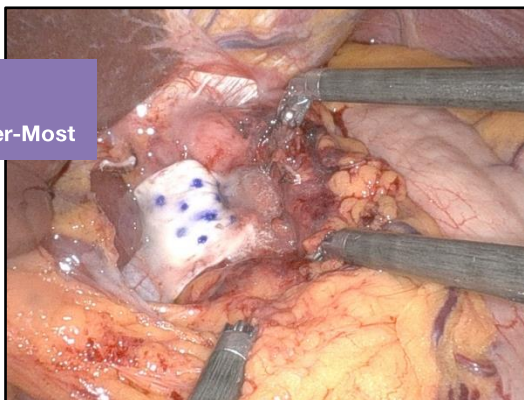


Figure 2. Placement of DermaPure® for soft tissue reinforcement.

Post-Operative Notes:

- Post-op upper gastrointestinal series (UGI) under fluoroscopy revealed no hiatal hernia, and no gastroesophageal reflux.

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