Rapid Evolution of a Morgagni Hernia with Herniation of the Left Hepatic Lobe: Case Report and Review of the Literature

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INTRODUCTION

Morgagni hernias are a rare form of congenital diaphragmatic hernia, commonly found on cross sectional imaging performed for complaints of pulmonary or gastrointestinal symptoms, and repaired electively. We report our acutely symptomatic case repaired urgently, along with eight previous cases repaired electively. The hernia contents included stomach, omentum, and transverse colon. All repairs involved primary tissue repair of the diaphragm with mesh reinforcement. The patients generally did well, were discharged one to two days post-operatively, and have no reported complications.

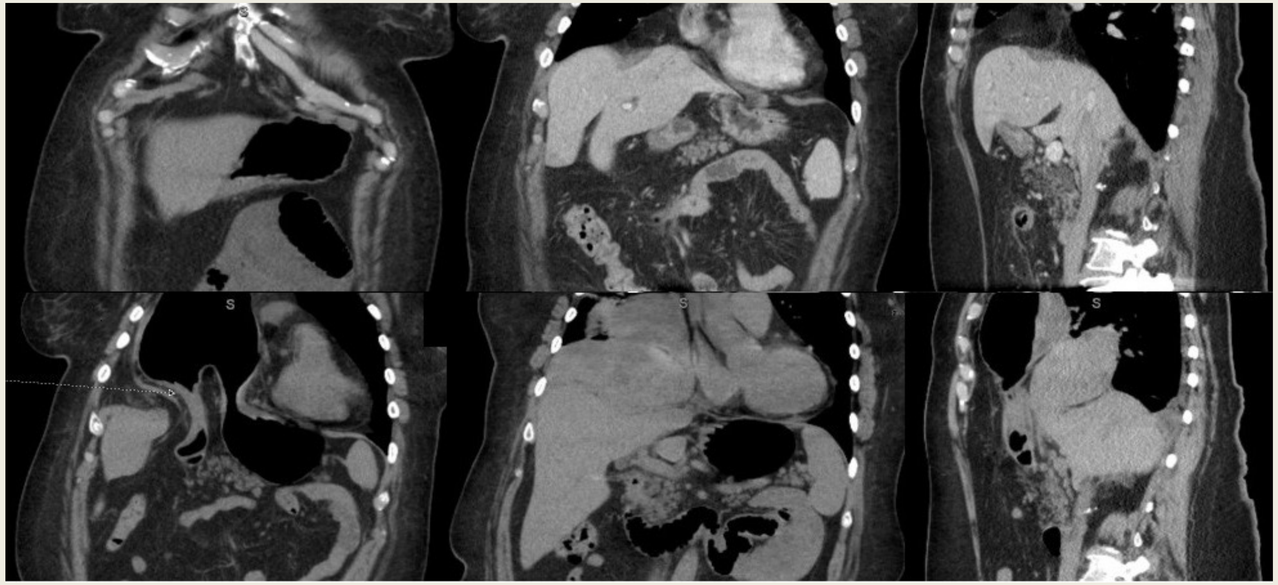
METHODS AND MATERIALS

A PubMed search was performed to find all reported adult cases of trans-abdominal Morgagni hernia repair in using a Robotic platform (DaVinci Xi, Intuitive, Sunnyvale, CA). We collected the presentation, technique, complications, and results of all cases.

RESULTS

In our case, a 72 y/o female presented acutely with gastric obstruction. Two months prior she had a small bowel obstruction, underwent CT, diagnostic laparoscopy, lysis of adhesions, and takedown of the falciform ligament. At that operation a “groove” to the left of the falciform was noted, photographed, but not repaired. A follow up CT 11 days later showed no herniation into the defect. Upon re-presentation, her CT showed a Morgagni hernia with incarcerated left hepatic lobe and gastric antrum. NG decompression improved her symptoms. She was explored, found to have auto-reduced her stomach, but her liver required surgical reduction. There was no hernia sac, allowing free communication between the abdomen and right chest. The defect was sutured and reinforced with a coated mesh. She did well and was discharged postoperative day one.

Our search found eight prior cases of robotic trans-abdominal Morgagni hernia repair. All were performed electively for a combination of pulmonary and foregut symptoms. Most cases are right sided and include herniated stomach, omentum, and/or transverse colon and were repaired with mesh. There were no significant reported complications and patients were typically discharged within one to two days.



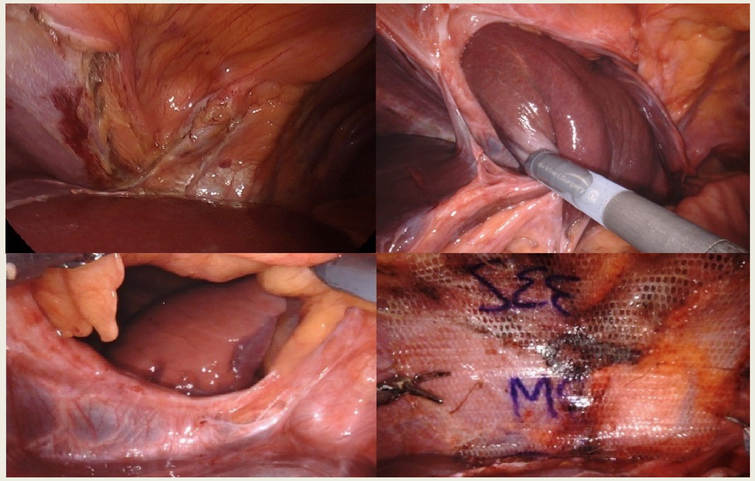


Figure 2 (above): Top left: imaging from prior diagnostic laparoscopy, after lysis of the falciform ligament. Top Right: image from re-presentation during reduction of left lobe of liver. Bottom Left: patent foramen of Morgagni with no hernia sac showing right lung and pleural space. Bottom Right: repair of hernia using 2-0 V-Loc, 0 Ti-Cron, and Parietex mesh.

CONCLUSIONS

A trans-abdominal, robotic-assisted tissue repair of the diaphragm with mesh reinforcement appears to be safe and effective for the Morgagni-type hernia. The robotic platform offers additional degrees of freedom, making retro-sternal operating more ergonomic to the surgeon. The rapid progression of our patient to an acutely symptomatic hernia suggests caution should be advised when encountering incidental small diaphragmatic defects. Repair at the time of discovery should be considered so that the serious complications associated with incarceration might be avoided.

Figure 1 (left): Top row: prior admission imaging. Top left: anterior coronal image showing immediate retrosternal diaphragmatic defect. Top middle: posterior coronal image showing liver abutting diaphragmatic defect. Top right: sagittal image showing liver covering diaphragmatic defect. Bottom row: imaging at time of acute incarceration. Bottom left: anterior coronal image showing incarcerated gastric antrum. Bottom middle: posterior coronal cut showing incarcerated left hepatic lobe. Bottom right: sagittal right paramedian cut showing incarcerated liver and stomach.

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