

Laparoscopic Repair of an Incarcerated Paraesophageal Hernia in a Pregnant Female, A Case Report

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Abstract

Background: Incarcerated paraesophageal hernias can be deadly but are fortunately rare. The stomach is the usual incarcerated organ and is at risk for ischemia causing tissue necrosis, and ultimately death of the patient.

Objective: Pregnant patients can develop a range of surgical emergencies. We report a rare case of an incarcerated, obstructed paraesophageal hernia.

Case Report: We report the case of a 23 year old female who presented at 22 weeks pregnancy with an incarcerated, obstructed paraesophageal hernia. The patient had complete oral intolerance and was admitted to the labor and delivery floor. CT obtained by the obstetrician showed a hiatal hernia with about a third of the stomach in the chest, including the gastroesophageal junction. Conservative management was attempted but the patient continued to vomit and was progressively tachycardic. After four days, the decision to operate was made and a laparoscopic paraesophageal hernia repair was performed with a Nissen fundoplication.

Results: The patient and fetus did well but the postoperative course was complicated by a right lower lobe pneumonia. The patient recovered uneventfully and went on with her pregnancy.

Conclusion: Pregnancy is not a contraindication to operating when necessary. A laparoscopic approach is preferred for most urgent cases in pregnancy with no increase in morbidity to the mother or fetus. Laparoscopic paraesophageal hernia repair is feasible and safe in pregnancy.

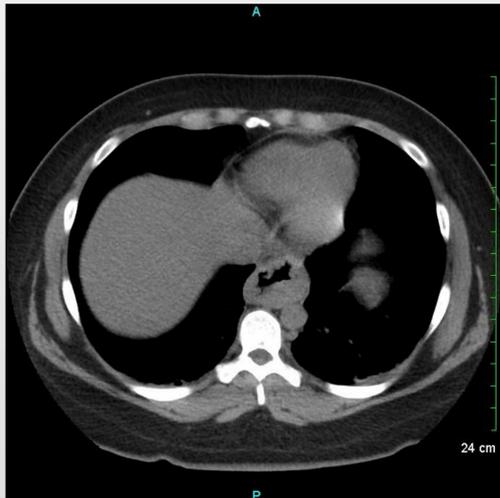


Figure 1: Transverse CT showing hiatal hernia.

Background

Esophageal hiatal hernias are the most common type of diaphragmatic hernia, but strangulation is very rare due to most (90%) being sliding hernias. In paraesophageal hernias, a type of congenital hernia, strangulation is much more common, and must be surgically treated due to the risk of tissue necrosis and resultant death. Patients with incarceration present with symptoms of intestinal obstruction, the most common of which are bloating, abdominal pain, and vomiting. Once strangulation and necrosis occurs, bowel resection is mandatory, and the risk of death increases 20 fold (Hoffman, 1968).

Case Report

Our patient was a 23 year old female that presented to the labor and delivery triage with intractable nausea and vomiting. She was 22 5/7 weeks pregnant and was a G2P1. She was experiencing these symptoms for over a week, and was starting to feel weak and dehydrated. Her obstetrician admitted her and fluid resuscitation was begun. After multiple failed trials of PO intake, a non-contrast CT scan was ordered (figures 1,4). This showed that the patient had an incarcerated hiatal hernia with the upper portion of her stomach and gastroesophageal junction in her chest cavity, and general surgery was consulted. The CT imaging displayed the anatomy well, so an upper gastrointestinal series was not performed due to concerns of radiation exposure to the fetus. The patient was evaluated, and because she was still not able to tolerate clear liquids, she was given the options of a nasojejunal feeding tube, endoscopic reduction, or surgery. She elected to think about it for some time, but later that night, she became tachycardic and febrile. At this point, we felt that surgery was strongly indicated due to the impending risk of gastric volvulus and ischemia. The patient consented to the surgery, and we took her urgently to the operating room.

The patient underwent a rapid sequence intubation and had a bump placed under her hip to help increase venous return. A 12 mm right subcostal incision was used to access the abdominal cavity using an optical trocar. Once pneumoperitoneum was established, we placed the remaining ports in the traditional locations used in a hiatal hernia repair. Her gravid uterus was large at nearly 23 weeks gestation, but did not interfere with the procedure. The liver was retracted and the stomach was reduced the abdominal cavity. The hernia sac was dissected out of the mediastinum and then resected, and the esophagus was mobilized to make 3 cm of intraabdominal length (figure 2). A posterior cruropexy was performed, followed by a Nissen fundoplication, and a bioabsorbable mesh was placed to prevent recurrence (figure 3). The operative time was 48 minutes, and there were no intraoperative complications.

Postoperatively, the patient experienced some isolated uterine contractions that resolved over 24 hours spontaneously, and she developed aspiration pneumonia that resolved with intravenous antibiotics. The aspiration pneumonia could have been present prior to the surgery, and was likely responsible for the tachycardia and fever we observed preoperatively. The patient had an otherwise uncomplicated recovery, and continued her pregnancy without further problems.

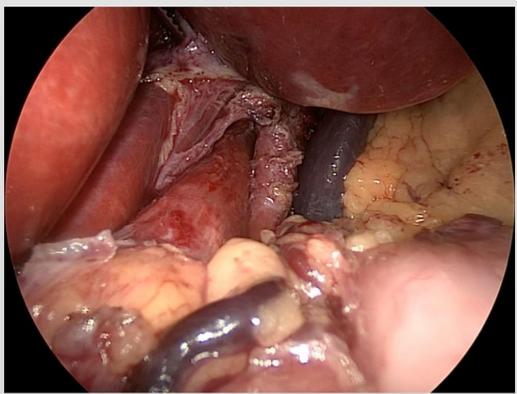


Figure 2: Mobilization of the esophagus.

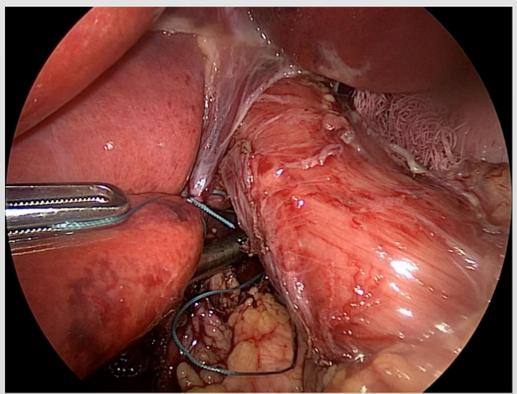


Figure 3: Closure of the hiatus.

Discussion

Incarcerated hiatal hernias can be deadly. Our case was complicated by the fact that the patient was pregnant and both lives were in jeopardy. This case report highlights a known but rarely seen surgical emergency.

A similar case in 2005 of a pregnant female with a paraesophageal incarcerated hernia resulted in strangulation due to gastric volvulus, and a portion of the omentum was resected. The fetus was aborted on postop day 2, and on postop day 5, the patient lapsed into a hepatic coma, resulting in maternal death 2 days later (Qublan, 2005). Cases like this one stress the importance of early detection and treatment of incarcerated hernias, especially in pregnancy. We found that the literature did not have a definitive published case of a successful repair, and our patient shows that the risks of strangulation and necrosis outweigh the risks of operating on a pregnant female during the second trimester.



Figure 4: Coronal CT showing hiatal hernia and fetus.

Conclusions

In an emergent setting, pregnancy is not a contraindication to operating. A laparoscopic approach is preferred for most urgent cases in pregnancy with no increase in morbidity to the mother or fetus. Laparoscopic paraesophageal hernia repair is feasible and safe in pregnancy.