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Perspective

Impact of Pre-Existing Hiatal Mesh on Morbidity during and after Revisional Antireflux Surgery

Rosina Johnstone*

Department of Surgery, The University of Auckland, Auckland, New Zealand

DESCRIPTION

Revisional antireflux surgery is often performed on patients who have previously undergone procedures to correct Gastroesophageal Reflux Disease (GERD) but continue to experience symptoms or complications. The use of mesh in initial surgeries to reinforce the hiatal hernia repair has become increasingly common in recent years. Hiatal mesh, typically placed around the diaphragm opening to support the weakened hiatus, is intended to reduce the risk of hernia recurrence. While mesh reinforcement has its advantages, its presence during revisional surgeries presents a unique set of challenges. Research has shown that the presence of pre-existing hiatal mesh can lead to higher morbidity rates both during and after revisional antireflux surgery.

This article will search into the impact of pre-existing hiatal mesh on revisional antireflux surgery outcomes, examining the technical difficulties it introduces, the increased risk of complications and the implications for patient recovery.

Gastroesophageal Reflux Disease (GERD) is a chronic condition in which stomach acid or bile flows back into the esophagus, leading to symptoms such as heartburn, regurgitation and difficulty swallowing. When conservative treatments such as medications or lifestyle changes are ineffective, surgical intervention may be necessary. Nissen fundoplication is one of the most common procedures performed to treat GERD and in some cases, a hiatal hernia is repaired concurrently. To reduce the risk of hernia recurrence, surgeons may opt to reinforce the hiatal repair with a synthetic or biological mesh.

The rationale behind mesh use is to provide additional support to the esophageal hiatus, which is often weakened in patients with GERD and hiatal hernias. The goal is to prevent the hernia from recurring, thereby reducing the likelihood of future reflux. However, mesh can also cause long-term complications, including erosion into surrounding tissues, migration and the formation of dense adhesions. These complications are particularly relevant when patients require revisional surgery, as the mesh can make the procedure more complex and increase the risk of morbidity.

Revisional antireflux surgery is typically indicated in patients who have recurrent symptoms of GERD after their initial surgery or who develop complications such as dysphagia, esophageal strictures, or hernia recurrence. Failure of the initial surgery can occur for a variety of reasons, including improper technique, loosening of the fundoplication wrap, or breakdown of the hiatal repair. In some cases, patients experience complications directly related to the use of hiatal mesh, such as mesh erosion or infection, which necessitate a revision.

Revisional surgeries are inherently more complex than primary surgeries due to the presence of scar tissue, altered anatomy and, in many cases, implanted mesh. The surgeon must carefully navigate these challenges to repair the underlying issues while minimizing the risk of additional complications.

The presence of pre-existing hiatal mesh complicates revisional antireflux surgery in several ways. First, mesh often leads to the formation of dense adhesions, which can make it difficult for the surgeon to access and dissect the operative field. These adhesions increase the risk of injury to surrounding structures, such as the esophagus, stomach, or diaphragm. Adhesions can also make it challenging to identify the anatomical landmarks needed to perform the revision accurately, thereby increasing operative time and the likelihood of complications.

Another significant issue is the potential for mesh erosion into surrounding tissues. Erosion occurs when the mesh gradually migrates or becomes embedded in nearby organs, such as the esophagus or stomach. In these cases, the mesh must often be removed, which can be technically difficult and increase the risk of damage to the surrounding tissues. Mesh erosion has been associated with severe complications, including fistula formation, infection and the need for additional surgeries.

Infection is another concern in patients with pre-existing hiatal mesh. Mesh, particularly synthetic types, can serve as a nidus for infection, which can lead to chronic inflammation and abscess

Correspondence to: Rosina Johnstone, Department of Surgery, The University of Auckland, Auckland, New Zealand, E-mail: rosina@johnstone.govt.nz

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formation. Infected mesh must often be removed and this process increases the complexity of the revisional surgery. Additionally, patients with infected mesh may require prolonged antibiotic therapy and have a higher risk of postoperative complications.

Surgeons performing revisional antireflux surgery on patients with pre-existing hiatal mesh face several intraoperative challenges. The most common of these challenges is the presence of dense adhesions. Adhesions can obscure important anatomical landmarks and make it difficult to mobilize the stomach and esophagus, which are necessary steps in completing the revision. Extensive adhesiolysis (the surgical removal of adhesions) is often required, which increases operative time and the risk of inadvertent injury to nearby structures.