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Type IV Hiatal Hernia Tension-free Repair with Extended Esophageal Mobilization: Technique Demonstration featuring High Mediastinal Dissection, Incision of the Meso-Esophagus at the Aortic Surface, and Preservation of Aorto-Esophageal Vessels

6. Hiatal hernia
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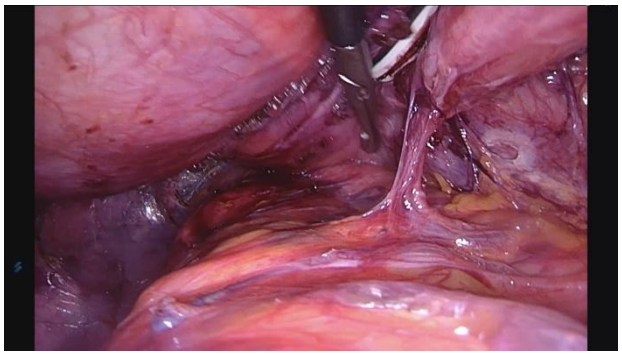
Aim

Type IV hiatal hernia (HH) repair is a challenging procedure as the gastro-esophageal junction, the stomach, and other abdominal organs are displaced and fixed high into the mediastinum. Our aim is to demonstrate a technique which offers a lengthy and tension-free abdominal esophagus with a flexible restoration of the anatomy, with the objective to reduce postoperative dysphagia and recurrence rates.

Material & Methods

Sixteen consecutive patients underwent elective minimally-invasive repair of type IV HH with a standardized modified technique. There was extensive mobilization of the esophagus with high mediastinal dissection at the level of the pulmonary veins. The dissection followed the anatomical plane at the surface of the aorta with the incision of the root of the esophageal mesentery ("meso-esophagus") distally from the branches of the vagal nerves, and with preservation of the aorto-esophageal perforant vasculature. Operative pictures and short videos are shown in order to provide a standardized approach.



Results

The extensive esophageal mobilization delivers a length of esophageal abdominal esophagus of at least 4 centimeters in a tension-free manner, which allows easy fashioning of the fundoplication wrap. There was no mortality, whereas major morbidity rate was 12,5%. With a 2-year follow-up the clinical recurrence rate was 6.25% with absence of significant dysphagia after the first 6 postoperative weeks.

Conclusions

Esophageal extensive mobilization with high mediastinal mobilization and incision of the "meso-esophagus" at the root of the aorta provide a tension-free and flexible restoration of the anatomy during TYPE VI HH repair.