109

OUR STRATEGIES FOR THORACOSCOPIC REPAIR OF ESOPHAGEAL ATRESIA WITH OR WITHOUT A LONG GAP

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Background: The treatment of esophageal atresia (EA) with tracheoesophageal fistula (TEF) by classical thoracotomy has been established, except for EA with a long gap. The main advantages of the minimally invasive approach include avoidance of a thoracotomy, improvement of cosmesis, and superior visualization of the anatomy and fistula afforded by the laparoscopic magnification. We report on our strategy for thoracoscopic repair of EA, followed by the thoracoscopic treatment for postoperative chylothorax.

Patients and Methods: Between 2013 and 2016, we reviewed the records of 23 babies having thoracoscopic repair of EA. For treatment of postoperative chylothorax cases, we performed thoracoscopic near-infrared (NIR) imaging by Indocianin Green using as fluorophore.

Results: Sixteen of 23 patients underwent primary thoracoscopic repair. The median body weight, operative time, and blood loss were 2559 g (1671–3325), 159 min (101–295), and 1 ml (1–20), respectively. Postoperative complications were chylothorax (3 cases), anastomotic stricture (4), minor leakage (1), and gastroesophageal reflux disease (GERD) (8). Seven patients underwent two- or three-stage repair. The reasons for multi-stage repair were a long gap (5), extremely low birth weight (1), and vascular ring (1). Postoperative complications were anastomotic stricture (2), minor leakage (1), GERD (4), and mediastinitis (1), which needed three-stage repair. Two of three postoperative chylothorax cases needed thoracoscopic NIR imaging operation, and we detected and ligated successfully chylous leakage sites. Postoperative chylous leakage was completely stopped. There was no conversion or death.

Conclusions: Thoracoscopic repair of EA with or without a long gap is feasible and safe with some optional operative techniques. Postoperative chylothorax could be treated by NIR imaging.