Transient paraplegia after esophagectomy in a patient with thoracic epidural analgesia

Summary
Paraplegia is a rare but devastating complication in esophageal surgery. Epidural analgesia is considered essential in perioperative management of patients with esophageal cancer but carries a risk of causing neurologic deficit. We present a case of sudden postoperative paraplegia and numbness of lower extremities followed shortly after with hypotension and loss of consciousness in a 47-year old patient who underwent total esophagectomy and esophagogastoplasty with thoracic epidural analgesia. Paraplegia was short-lived and resolved with hemodynamic stabilization. We discuss possible causes of neurologic deficit in this patient and emphasize the importance of maintaining spinal cord perfusion pressure by avoiding perioperative hypotension.

INTRODUCTION
Paraplegia is a very rare complication in esophageal surgery. It is usually caused by ischemic insult to spinal cord. Epidural analgesia is considered essential in perioperative management of patients with esophageal cancer. It decreases incidence of respiratory complications which are the leading cause of perioperative morbidity and mortality and improves microcirculation in gastric conduit. Epidural analgesia can cause complications as vertebral canal haematoma and direct injury of spinal cord with neurologic deficit (1). We present a patient who underwent total esophagectomy with thoracic epidural analgesia and who suddenly developed postoperative paraplegia and numbness of lower extremities.

CASE REPORT
A 47-year old men underwent right thoracotomy, medial laparotomy and cervicotomy with total esophagectomy and esophagogastoplasty. His medical history revealed that he developed progressive dysphagia and was able to ingest only small amounts of liquids. He also complained of nausea, epigastric pain and loss of weight. Ulcerative lesion 30 cm from incisors noticed during gastroscopy was histologically diagnosed as cancer. He smoked 2 packs/cig/day but his spirometry showed only minor restriction. The only medication he was taking was pantoprazole. Thoracic epidural catheter was placed before anesthesia induction at Th10–11 level without technical difficulty and tested with 3ml of 2% lidocaine. Following anesthesia induction left double lumen tube was placed. Thereafter anesthesia was BIS guided combined general and epidural. It was maintained with sevoflurane and 5 ml bolus
Figure 1. CT image shows pneumomediastinum, pleural effusion on the left side and gastric conduit in posterior mediastinum.
pressure due to combination of relative hypotension, hypovolemia and possibly venous congestion. Epidural analgesia contributed to development of hypotension and inhibited compensatory tachycardia. Although epidural anesthesia as a cause of his neurologic deficit can not be excluded, sudden appearance of paraplegia, use of low volumes of diluted local anesthetic, fast resolution and uneventful use of epidural analgesia afterwards makes this unlikely.

We recommend vigilant monitoring of patients with thoracic epidural analgesia after major thoracic surgery. Development of any kind of neurologic deficit should prompt careful evaluation. Hypotension in the perioperative period must be avoided to preserve spinal cord perfusion pressure.

REFERENCES