Anesthesiology
77:835, 1992

Lower Extremity Neuropathy after Laparoscopic Cholecystectomy

To the Editor:—We have identified two cases of lower extremity neuropathy in our first 50 patients undergoing laparoscopic cholecystectomy. Our investigation related this complication to a positional injury unique to the requirements of laparoscopic cholecystectomy.

In Case 1, the patient was a 29-year-old woman admitted for laparoscopic cholecystectomy. The patient had functional cadaveric renal and pancreas transplants placed 3 years before admission. The patient was obese (116 kg). Her creatinine was 2.4 mg/dl, but laboratory values were otherwise normal.

The patient underwent a 1.75-hour laparoscopic cholecystectomy while anesthetized with isoflurane/air/oxygen and in a steep reverse Trendelenburg's position. $F_{I_{O_2}}$ was 30–50%; vecuronium (4 mg total) was administered for muscle relaxation. Recovery was uneventful.

Approximately 12 hours after the procedure, the patient complained of a burning pain and numbness in the right anterior-lateral thigh, which changed to a sharp, stabbing pain radiating toward her knee. Neurologic examination results were normal. A neurologist was consulted, and a diagnosis of meralgia paresthetica was made. The patient's complaints resolved spontaneously.

In Case 2, the patient was a 47-year-old woman admitted for laparoscopic cholecystectomy, after ultrasound confirmation of cholelithiasis. Physical examination results were normal except for obesity (124 kg; height 154 cm). Laboratory values and electrocardiogram results were normal.

Laparoscopy cholecystectomy was performed with the patient anesthetized with oxygen/nitrous oxide/isoflurane and in a steep reverse Trendelenburg's position. An intraoperative cholangiogram was performed, which revealed the presence of bile duct stones. Attempts to decompress the bile duct prolonged the case; total operating time was 5 hours and 10 minutes. Recovery was uneventful. Upon ambulation on postoperative day 2, the patient noted a left "foot drop." Examination revealed weakness in the extensor hallicus longus and anterior tibialis muscles and decreased sensation along the distribution of the superficial peroneal nerve. A diagnosis of peroneal neuropathy was made and confirmed by acute denervation changes on electromyographic testing. The patient did not return for follow-up care.

In summary, two cases (a 4% incidence) of lower extremity peripheral nerve injury were noted in our first 50 cases of laparoscopic cholecystectomy. Investigation of these two cases revealed a departure from the usual supine positioning for cholecystectomy and further revealed a common source of injury. Positioning during laparoscopic cholecystectomy may require the use of a steep reverse Trendelenburg's position in the obese patient to adequately expose the gallbladder. Both patients were very obese. The restraining straps were placed across the upper thighs in the first case, whereas the strap in the second case was placed just below the knees. Thus, the strap placement corresponded exactly to the site of neuropathy in both cases. Other possible contributing factors include diabetes and renal disease in Case 1 and a prolonged procedure in Case 2.

Shantha and Harden* advocate the use of two restraining belts across the upper chest and knees to maintain patient stability when using the exaggerated supine reverse Trendelenburg's position. We believe that in our cases patient weight was concentrated on the lower extremity straps, resulting in nerve damage by stretch or compression. We have subsequently instituted the routine addition of a foot board to absorb the patient's weight; this procedure has been used in more than 100 patients without adverse events.

ROBERT V. JOHNSTON, M.D.
Associate Professor of Anesthesiology

NOEL W. LAWSON, M.D.
Professor of Anesthesiology

WILLIAM H. NEALON, M.D.
Associate Professor of Surgery

Departments of Anesthesiology and Surgery
University of Texas Medical Branch
Suite 2-A, E-91
Galveston, Texas 77555-0591

(Accepted for publication July 16, 1992.)

* Shantha TR, Harden J: Laparoscopic cholecystectomy: Anesthesia-related complications and guidelines. Surgical Laparoscopy and Endoscopy 1:173–178, 1991

Anesthesiology
77:835–836, 1992

A Potentially Serious Complication that Resulted from Improper Use of the Univent® Tube

To the Editor:—The Univent® tube (Fuji Systems Corporation, Tokyo, Japan) is an endotracheal tube with a movable bronchial blocker used for selective one-lung ventilation. A major advantage of this tube over double-lumen endobronchial tubes is that the Univent® tube does not have to be replaced with a single-lumen endotracheal tube following major thoracic surgery if postoperative mechanical ventilation is required.[1] Instead, the blocker is simply retracted into a pocket situated at the distal end of the tube, which then functions as a standard endotracheal tube. We would like to report a potentially serious complication occurring during postoperative ventilation in a patient in whom a Univent® tube was being used.

A 50-year-old man underwent uncomplicated esophageal resection under combined general and epidural anesthesia. The Univent® tube was successfully used intraoperatively to facilitate exposure of the right mediastinal structures. At the end of the procedure, the blocker was deflated and was completely retracted into its pocket. It was secured in this position by means of a stopper attached to the tube. The patient was then transferred to an intensive care unit (ICU) for elective post-