Common peroneal nerve palsy after surgery with lithotomy position has been widely reported, but it is an unexpected complication after surgery with supine position. We report a patient who developed common peroneal nerve palsy after surgery with supine position. A 55-year old man is planned for robotic assisted laparoscopic right hemicolectomy because of colon cancer. The patient was placed supine with Trendelenburg position at an angle about 5 degrees and tilted left about 15 degrees. The operation is uneventful, but he developed common peroneal nerve palsy on the first postoperative day. The patient was fully recovered with conservative treatment after 2 months. We consider that nerve palsy as a result of compression of common peroneal nerve related to patient positioning. So we should be careful not to develop common peroneal nerve palsy even if the patient was placed in the supine position during robotic assisted surgery.

Postoperative peripheral nerve palsy with regard to patient positioning has been reported, especially common peroneal nerve (CPN) palsy is a well-recognized complication following surgery in the lithotomy position, particularly genitourinary and gynecologic surgery [1,2]. But it is a rare complication in patients who placed in supine position [3,4]. The authors report our experience for a common peroneal nerve palsy after robotic-assisted laparoscopic right hemicolectomy in which patient is placed in supine position.

CASE REPORT

A 55-year-old man (height is 178 cm, weight is 63.9 kg and body mass index (BMI) is 20 [17]. with colon cancer at hepatic flexure was scheduled to undergo robotic-assisted laparoscopic right hemicolectomy (da Vinci® S Surgical System, Intuitive Surgical, Inc, Sunnyvale, California, USA). Preoperative medical history, physical examination and laboratory test was normal, but hemoglobin level was 9.4 g/dl. We induced general anaesthesia with propofol 120 mg, rocuronium 77 mg and remifentanil 65 μg. Anesthesia was maintained with desflurane 3.8−4.2 vol%, O2/air (FiO2 0.5), remifentanil 0.05−0.15 μg/kg/min and rocuronium 5 μg/kg/min. The patient was placed supine with trendelenburg position at an angle about 5 degrees and tilted left about 15 degrees from horizontal. The operative time was 6 hours and 45 minutes. The patient complained about the weakness of his left leg and the numbness of the lower lateral left leg on the first postoperative day. Physical examination revealed grade 0/5 weakness of left ankle dorsiflexion and extensor hallucis longus, grade 1/5 weakness of eversion and grade 5/5 weakness of inversion and plantar flexion. Common peroneal nerve palsy was confirmed by electromyographic study and complete nerve conduction studies. The patient was treated conservatively with physical therapy. After 2 months, his motor power was fully recovered and sensory deficit had disappeared.
DISCUSSION

CPN palsy is a well-recognized complication following surgery in the lithotomy position [1,2]. The CPN is vulnerable to compression and stretching injury due to its anatomical location [5,6]. It wraps superficially around the neck of the fibular before dividing into the superficial peroneal and deep peroneal nerves. The mechanism of the nerve injury is due to laceration, contusion, compression, traction or ischemia [6].

Warner et al [2] reported that increased duration in a lithotomy position was associated with increased risk of lower extremity neuropathy. They also said that risk factors for development of a persistent neuropathy of a lower extremity included a BMI (kilograms per squared meter) of 20 or less, diabetes, alcoholism, familial neuropathy and a history of smoking within 30 days of the procedure [2,7].

In our patient, the potential risk factors were prolonged operative time (6 hr 45 min) and slender body shape (BMI 20). Our patient was placed supine with neutral leg position but he was tilted to the left for exposure of right colon, and then the left leg slightly external rotated on the knee, so the compression of CPN around the fibular head might happen.

These days minimal invasive surgery, such as laparoscopic surgery and robotic-assisted surgery has been increased because its advantages over conventional open surgery, including shorter hospital stay, reduced morbidity and faster recovery. However robotic surgery was associated with a significant increase in operative time [8]. In addition, the robotic arms are secured to the side of the operating table near to the patient and the operating table is needed to be tilted for the better exposure in robotic-assisted surgery [8,9], the robotic arms or operating table might compress the patient’s body part. So anesthesiologists and surgeons have to be concerned about the patient positioning, especially the leg position, not to be rotated accidentally. Although this complication is not fatal and has a good prognosis [10], it is related with the quality of life.

Therefore, the patient with risk factors such as prolonged operative time, slender body shape and diabetes, even when the patient is placed in supine position, should have his knee carefully supported in a neutral position with soft padding during the operation and check his position finally after the operating table and robotic arms are set completely.

REFERENCES