44597 - POST-OPERATIVE ACUTE ANTERIOR SPINAL ARTERY SYNDROME AFTER RIGHT UPPER LOBECTOMY COMPLICATED BY PULMONARY ARTERY INJURY

Avinash Sinha, Montreal General Hospital, MUHC, Montreal, QC, Canada;

Thomas Hemmerling, Montreal General Hospital, MUHC;

PURPOSE:

Paraplegia is an extremely rare complication of thoracotomy with an incidence of 0.08% [1]. The incidence of epidural haematoma associated with the use of thoracic epidural catheter (TEA) was recently estimated as max 1:1400 [2]. A recent case report [3] advocates early imaging to diagnose and reverse causes such as epidural haematoma or post surgical compression of the cord. We present a case of a 32 year old man undergoing right upper lobectomy with TEA with postoperative temporary paraplegia.

CLINICAL DETAILS:

This 32 year old man, with a germ cell tumour underwent right upper lobectomy with single-lung ventilation, TIVA (propofol) anaesthesia and TEA (T5-6, insertion without problem). He was in good health, but reported transient “sciatica” in the right leg pre-op.

Resection of the medial portion of the right upper lobe was complicated by pulmonary artery injury, causing a rapid unexpected blood loss of ca. 2 L; maintaining a minimum haematocrit of 29% during intra-operative transfusion of 4 units of blood, 2 units of FFP, 1L of colloids and 3L of crystalloids. Transient severe hypotension of a mean of 50 mmHg pressure occurred initially for a max of 5-10 min; a mean arterial blood pressure above 60mmHg was maintained during the repair of the PA artery; during that time (ca. 1 h), the PaO₂ was between 70 – 80 mmHg, the PaCO₂ around 55 – 58 mmHg (FiO₂=1). At the end of surgery, the patient was transferred to the PACU, breathing spontaneously on an endotracheal tube, oxygenating at SpO₂ of 98% (FiO₂=0.5), with a mean arterial blood pressure greater than 80 mmHg. He was sedated but orientated, complaining of moderate post-surgical pain, but failed to respond to strong painful stimuli to the lower limbs.

Immediate CT scan of the thoracic spine and head were obtained with the epidural catheter in situ, followed by MRI without epidural catheter (removed with normal coagulation); all of which showed no reversible causes or spinal cord swelling. Anterior spinal artery syndrome resulting in a T10-11 spinal stroke was diagnosed by the neurologist. Motor recovery allowing mobilisation was observed within 10 days.

CONCLUSION:

We present the rare case of acute anterior spinal artery syndrome in a young, healthy patient. Watershed ischemia exacerbated by blood loss, relative hypoxia and hypercapnia during single-lung ventilation seems the most probable explanation. However, in the lateral decubitus position, the heart is lower than the pulmonary artery and an air embolism may have been entrained, passing through to the systemic circulation via significant shunting through the unventilated lung. Since surgically caused rapid blood loss can not be foreseen, a revised, more aggressive regime to avoid the acceptance of controlled hypercapnia and borderline oxygen tensions during single-lung ventilation is recommended.

References;

- [1] Ann Thorac Surg 1995;59:1410-15
- [2] BMC Anesthesiol. 2006 Sep 12;6:10.
- [3] Anesth Analg 2007;104:201-203