Pseudotumor cerebri and morbid obese (BMI64) for robotic hysterectomy

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Morbid obese patient has a higher risk for endometrial cancer; surgical hysterectomy is the most effective treatment to cure the cancer. Hysterectomy when performed robotically would have many advantages over traditional open surgery, such as minimal blood loss, less postoperative pain and infection, short hospital stay, and good quality of recovery. This is particularly beneficial for morbid obese patients.

Common anesthesia challenges for managing morbid obese patients includes IV assess, securing airway, and positioning. Intraoperative Steep Trendelenburg and CO2 pneumoperitoneum would not only significantly affect oxygenation by high airway pressure, CO2 retention, and hypoxemia; it also triggers other significant physiological changes, e.g., increase in CBF (cerebral blood flow) and IOP (intraocular pressure), neuroendocrine responses, and sympathetic tone, etc.).

A 43-year-old woman morbid obese (BMI 64) with endometrial cancer was scheduled for robotic hysterectomy. Other comorbidities were primary hypertension, DVT (deep venous thrombosis) and PE (pulmonary emboli) on coumadin and status post IVC (inferior vena cava) filter placement, anemia, osteoarthritis, gallbladder stone, polycystic ovaries, migraine with aura, lumbar spinal stenosis, major depression, OSA. Most important, the patient has been diagnosed for pseudotumor cerebri (benign intracranial hypertension) two years ago and treated with Diamox.

After consulting with neurosurgeon and cleared to precede for surgery, the orchestral of anesthesia plan was based on the concept of ERAS (enhanced recovery after surgery)

1) ICP: there is a difference clinically between an elevated ICP and the ability to auto regulate. After reviewing brain images and her clinical presentation, this patient should be able to auto regulate her ICP during surgery and position changes. Cerebrooximetry monitor would provide additional valuable information intraoperatively.

2) Airway: optimal sniff position, establish good mask ventilation first, then using Glidescope for the placement of endotracheal.

3) Positioning: it was a true team effort among many OR staffs; the patient was well padded to prevent the possible of pressure and nerve injury, sufficient shoulder support to sustain prolong steep TP.

4) Ventilator setting: using VCV (volume control mode) and small TV (tidal volume), high PEEP, lower FiO2 to avoid VILI (ventilator induced lung injury) and PPC (postoperative pulmonary complications).

5) Permissive hypercapnia and permissive hypoxemia: morbid obese patient would have significant change of pulmonary physiology during robotic hysterectomy surgery. Persistent hypoxemia is the result of profound atelectasis, the common solutions include applying and

tolerating higher driving pressure, repeated alveoli recruitment (ARM), using higher PEEP, and accepting a lower but safe SpO2.

6) Anesthetic techniques: minimize IVF (<500 ml), narcotic free, short acting volatile agent, and effective reversal of muscle relaxant, and more.

When surgery was finished, the patient was reversed and breathing spontaneously. She was extubated in OR, awake and transported to PACU (post anesthesia care unit). She had a peaceful night in day hospital overnight, did not require any additional pain medication nor PONV (postoperative nausea and vomiting), and was discharged home next morning after breakfast.

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