LETTER TO THE EDITOR

AWAKE FIBEROPTIC INTUBATION WITH TARGET–CONTROLLED INFUSION OF REMIFENTANIL IN EMERGENCY SURGERY

Dear Editor:

We present a case of predicted difficult intubation before emergency surgery for stercoral peritonitis.

Patient's medical history was of a 61-year-old man with a malignant laryngeal tumor. He had multiple sequences of radiotherapy and chemotherapy before current episode. Two months before this episode he had inhalational pneumonia, which necessitated gastrostomy for feeding purpose. The current hospitalization was for acute abdominal pain, with an abdominal CT scan suggesting bowel perforation with stercoral peritonitis. Thereafter, emergency laparotomy surgery was to be performed. Preoperative anesthetic assessment confirmed the acute abdominal syndrome, blood pressure of 110/80 pulsation 120 per minute, temperature 39°C, whereas airway assessment was a predicted difficult intubation because of trismus (1-cm mouth opening), the presence of a laryngeal tumor, and an irradiated neck due to his previous treatments, expected difficult thyrocricoid puncture or tracheostomy under local anesthesia. On arrival in the anesthetic room, IV access, nasal oxygen (2 L/min), and routine monitoring including heart rate, arterial pressure, and oxygen saturation were established. The patient complained of nausea despite an IV administration of odansetron in the emergency department. An attempt to secure a nasogastric tube was unsuccessful because of deviation due to the tumor and very important pharyngeal reflex. Aspiration through the gastrostomy brought about 50 mL of gastric fluid. The patient did not agree with awake fiberoptic intubation or tracheostomy; however, he agreed for awake fiberoptic intubation with some sort of IV sedation, and therefore we opted for the target-controlled infusion (TCI) of remifentanil as it is currently performed for similar cases in our institution only for nonemergency cases.[1]

TCI plasma-site concentration (Cp) for remifentanil was achieved by using the Orchestra Base Primea (Fresenius Vial) infusion system and Minto[2] pharmacokinetic model. Remifentanil was diluted with saline (25 μg/mL).

Local anesthesia of the nostrils and pharynx was performed using lidocaine 5%. Fibroscopy was carefully initiated with respect of pain, comfort, respiratory rate, and arterial oxygen saturation under a TCI of remifentanil begining at 1 ng/mL and incremently reaching 3 ng/mL until visualization of the vocal cords. During fibroscopy, we could easily visualize minimal gastric regurgitation and perform immediate suction. After local anesthesia of the vocal cords through the fiberoptic, the trachea was successfully intubated, with immediate cuff inflation; however, the patient vomited a fair amount of gastric fluid, but we believe the trachea was safe from aspiration as the cuff was immediately inflated and instant aspiration from the trachea brought nothing.

Thereafter, the patient was anesthetized with propofol and atracurium for muscle relaxation, and nasogastric was placed which brought 200 mL of gastric fluid. He was ventilated with a mixture of air/oxygen/desflurane 20/80/4 percent, paralyzed with atracurium, and analgesia was maintained with remifentanil. Fluid resuscitation was initialized with cristalloids. During surgery, the diagnosis of stercoral peritonitis due to perforation of diverticulosis was confirmed. A colostomy was performed while total procedure lasted 2 hours. No complication occurred at this stage, and no vasoactive drug was necessary through the end of the surgery. The patient was not extubated and was transferred to ICU because of the difficult intubation and probable anticipated cardiorespiratory instability. He died 3 days later because of multiple organ failure due to a septic shock in relation to his peritonitis and his immune deficiency status after chemotherapy. This case suggests the successful use of target-controlled sedation of remifentanil during fiberoptic intubation in an emergency case while other options were very limited (orotracheal intubation impossible due to trismus, very important and painful reflexes yielding major discomfort, neck radiotherapy making intercricothyroid puncture and tracheotomy under local anesthesia, and awake fiberoptic intubation difficult or almost impossible). Another important message is that anesthetists should always be aware of inhalation of gastric fluid even with a gastrostomy tube before aspiration, as some amount of fluid can be trapped.

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