



PATIENT SAFETY RESOURCES

INTRAOPERATIVE ARREST DURING KNEE SURGERY

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DESCRIPTION

A 53-year-old male died intraoperatively during an elective total knee replacement after suffering a cardio-pulmonary arrest.

KEY LESSON

Clear communication on the care plan among care team members and prompt escalation in situations of patient decompensation is crucial to safe care, especially in the operative setting.

CLINICAL SEQUENCE

A 53-year-old male with a history significant for obesity, hypertension, and a prior right-knee surgery arrived at the hospital for a partial left knee replacement. The patient's vital signs at the preoperative evaluation were: blood pressure 143/80; pulse 80, respiratory rate 18, oxygen saturation 97%. The anesthesiologist assessed the patient at ASA II. The anesthesiology plan included an epidural/regional block and intraoperative sedation.

The anesthesiologist administered Versed 2mg and fentanyl 100mcg. The epidural and regional blocks were completed without issue. The patient was transferred to the operating room (OR) and care was transferred to a certified registered nurse anesthetist (CRNA).

The patient was positioned and the monitoring equipment and nasal cannula were placed. At this time, his vital signs were BP 99/57; pulse 60; oxygen saturation 94%.

Twenty minutes following incision, the CRNA gave the patient propofol 30mg IV bolus. Following the bolus, the bp and O2 sats continued to decrease. In response, the CRNA increased nasal cannula oxygen, then applied an oxygen mask, repositioned his jaw, and inserted nasal trumpets into one nostril and the patient's mouth. The O2 sats did not respond to the CRNA's interventions and the patient suffered a respiratory and cardiac arrest.

Intubation was attempted but the endotracheal tube (ETT) placement was not confirmed. The ETT was removed, and a laryngeal mask airway was placed. A cardiologist arrived at the OR for evaluation and assistance with the resuscitative efforts. The patient was defibrillated three times and an external pacemaker was placed. A second attempt at intubation was successful and central lines were placed.

Subsequently, the patient's labs indicated profound acidosis. Resuscitation was discontinued and the patient was pronounced dead.

ALLEGATION

The patient's family filed a claim against the anesthesiology group, the anesthesiologist, and the CRNA, alleging that the improper anesthesia management resulted in the patient's cardio-pulmonary arrest and death.

DISPOSITION

The case was settled in excess of \$1M.

ANALYSIS

Earlier escalation by the CRNA to the anesthesiologist for assistance could have prompted reversal medication at the first instance of oxygen desaturation. The CRNA was also critiqued for giving propofol when regional and epidural blocks combined with low blood pressure contraindicated use.

Contributing Factors

- Failure to appreciate and reconcile relevant sign/symptom/test result
- Patient assessment issues: failure to rescue
- Selection/management of medication: inappropriate for medical condition
- Patient monitoring: physiological status (other than med response)
- Communication among providers regarding the patient's condition

