Hemothorax following CVC placement:

Abstract:
Central venous access is useful for monitoring central venous pressure, inserting pulmonary artery catheter and administering vasoactive drugs in hemodynamically unstable patients. Central venous catheter (CVC) insertion through internal jugular vein may cause major vessel injury, inadvertent arterial catheterization, brachial plexus injury, phrenic nerve injury, pneumothorax, and haemothorax. We describe unusual presentation of hemothorax following CVC placement in a patient undergoing vestibular schwannoma excision. The patients' trachea intubated after several attempts during which thiopentone up to 600 mg administered. Thereafter, under ultrasound guidance, an 18G introducer needle placed in the right internal jugular vein but guide-wire did not advance. Meanwhile, the patient became hemodynamically unstable and a CVC placed in right subclavian vein and norepinephrine infused at 0.05 µg/kg/min; simultaneously, 1000 ml normal saline administered through CVC. The hemodynamic instability attributed to thiopentone administered during endotracheal intubation. The surgical procedure cancelled, and the patient shifted to critical care unit (CCU). Mechanical ventilation continued. In CCU, hemodynamic parameters further deteriorated and 0.1 µg/kg/min epinephrine started. Bedside lung ultrasound showed a large collection in pleural space on the right side. Chest radiograph showed a homogenous opacity obliterating costophrenic angle on the right side. A possibility of hemothorax considered, chest tube inserted and 1000 ml sanguineous fluid drained. Blood sample drawn through CVC showed air from proximal and middle lumen but distal lumen drained blood. Another CVC placed in the femoral vein and subclavian vein CVC removed. The vasoactive drug infusion transferred to CVC in femoral vein and 2 units pRBCs transfused. Hemodynamic parameters gradually stabilized and the patient recovered completely.

Reference:

Phulli R, Arora P, Neema PK. Utility and futility of central venous catheterization. Ann Card Anaesth. 2021 Jul-Sep;24(3):378-380. doi: 10.4103/aca.ACA_112_20. PMID: 34269274.