

Intra-Arterial Central Venous Catheter Placement

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Introduction

- The incidence of arterial cannulation during central venous catheter placement is less than 1%
- Complications range from hematoma to stroke and death
- Timely recognition and surgical management may help to mitigate devastating complications

Case Presentation

- A 72 year old patient was admitted in the intensive care unit after sustaining severe burn injuries
- He underwent bedside placement of a 12 Fr central venous catheter under ultrasound guidance
- Post-procedure chest X-ray revealed trajectory of catheter to the left of midline (Figure 1), raising suspicion for intra-arterial placement. Vascular Surgery was consulted
- CT angiography revealed catheter through right internal jugular vein into right common carotid artery, just distal to the junction with the innominate artery (Figure 2)
- Given the proximal location of injury, the decision was made for immediate endovascular repair
- Arterial access was achieved via cutdown on the right common carotid artery given the presence of severe burn wounds over bilateral groins. Initial arteriography confirmed CT findings (Figure 3)
- A 7 mm x 19 mm balloon covered stent was deployed in the common carotid artery to cover the defect. Completion arteriography did not reveal contrast extravasation (Figure 4)
- Postoperatively, the patient was started on Plavix. No neurologic complications were noted

Conclusion

- Intra-arterial placement of central venous catheters requires urgent recognition and surgical intervention
- Options for arterial repair include open, endovascular, or use of Perclose device, and the decision is often patient-specific
- If repaired in a timely fashion, further morbidity may be prevented

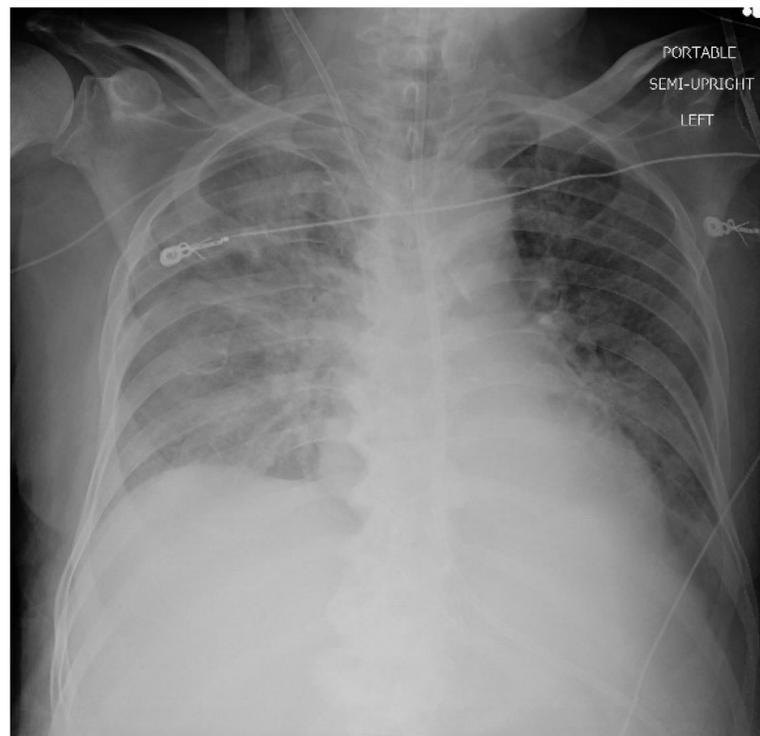


Figure 1. Post-procedure chest X-ray

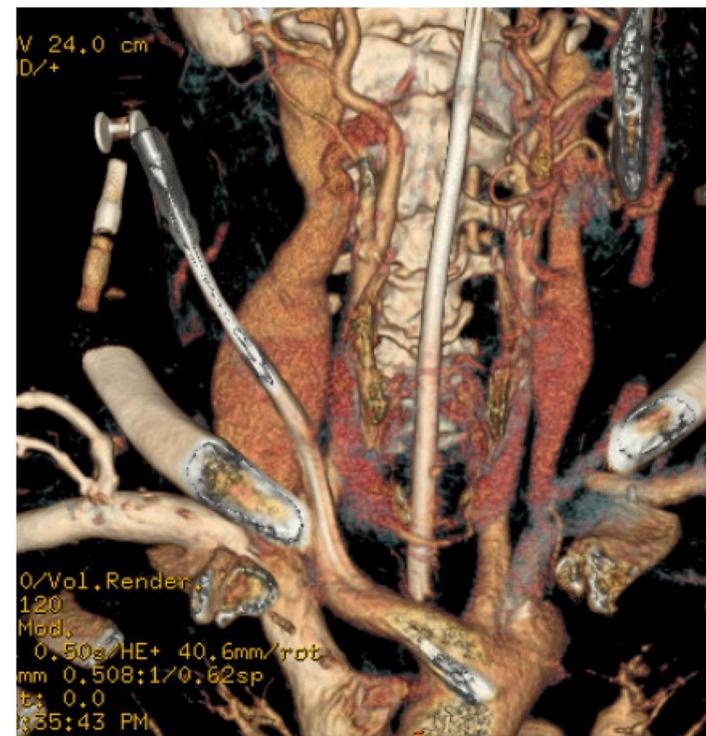


Figure 2. CT angiography (3D reconstruction)



Figure 3. Initial arteriography



Figure 4. Completion arteriography