Early Mobility and Walking for Patients with Femoral Arterial Catheters in Intensive Care Unit: a Case Series
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Abstract
Patients with femoral arterial catheters for hemodynamic monitoring are often placed on bed rest because of the anatomical location and perceived risk of catheter-related complications associated with mobility. This practice:
- Increases risk to well known adverse effects of inactivity on functional mobility.
- Increases treatment burden on the patient in the intensive care unit.

Purpose
The purpose of the study was to determine whether mobilizing patients with femoral arterial catheters for hemodynamic monitoring in a cardiovascular intensive care unit (CVICU) is associated with any catheter-related complications using a retrospective chart review.

Materials and Methods
A retrospective case series was undertaken on patients in a 40-bed cardiovascular and thoracic intensive care unit from June 1, 2005 to December 31, 2005.

Patients in this study underwent:
- Coronary artery bypass
- Aortic valve replacement
- Mitral valve replacement
- Heart transplant
- Lobectomy

Potential catheter-related adverse events investigated included:
- Bleeding at the femoral arterial catheter site
- Accidental catheter dislodgement and/or removal
- Non-functioning catheter after activity event
- Acute limb ischemia within 24 hours

Activity events for the purpose of the study included:
- Sitting edge of bed
- Standing beside
- Transfers to a stretcher chair or a regular chair
- Walking of any distance

Results
- The 30 patients identified for the study underwent 47 physical therapy sessions with a total of 156 activity events.
- No femoral arterial catheter-related adverse events were noted by either nurses or physical therapists.

Discussion
The data from this case series suggest that early mobility and walking in the CVICU are safe for patients with femoral arterial catheters, as no catheter-related complications were found in either the physical therapy or nursing documentation.

Limitations:
- Small number of patients (n=30)
- One physical therapist was providing care to all patients

Clinical Significance
The authors stress the importance of promoting early mobility in these increased risk patients to decrease the effects of prolonged bed rest such as: muscle disuse atrophy, tachycardia, decreased stroke volume, and insulin resistance.

Conclusion
Results are favorable towards early mobility in patients with femoral arterial catheters, it is important to note that this article is level four research quality, which yields weak evidence.

Further prospective studies with a larger sample size and greater number of therapists may yield better results.

Summary
- The presence of a femoral catheter should not be considered an absolute contraindication for mobilization in the ICU.
- Avoiding the hazards of bed rest provides a compelling reason to promote early mobilization patients in the intensive care unit.
- Therapists should be experienced and knowledgeable of the importance of avoiding the complications associated with early mobility with patients with femoral catheters.

References

Winkelman C. Ask the Experts. Ambulating With Pulmonary Artery or Femoral Catheters in Place. Winkelman C.

Presented by
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