Ambulating Patients with Pulmonary Artery Catheters Who Are Awaiting Heart Transplant

Joanna E. White, Mary E. Harris, Sarah Gillespie-Heyman, Noreen Gorero, Elisa Mattioli, Prasama Sangkachand, Janet Parkosewich, Marjorie Funk

Cardiac ICU, Heart and Vascular Center, Yale-New Haven Hospital, New Haven, CT

METHODS

- Design: Prospective descriptive
- Sample: 8 patients with PA catheter awaiting heart transplant
- Setting: Cardiac ICU, Heart & Vascular Center, Yale-New Haven Hospital
- Procedure
  - Obtain written informed consent
  - Patient walks around unit on monitor with RN
  - Collect data before, during, & after each walk
    - Vital signs
    - Evidence of change in PA catheter position
    - Patient’s perceived level of exertion (Borg Scale 0-10, 0 = nothing at all, 10 = very, very strong / hard)
    - Level of fatigue (0-4 scale, 0 = not at all, 4 = extremely)
    - Weekly assessment of patient’s perception of how walking affects sense of well-being
      - 7 aspects of well-being (1-5 scale, maximum sense of well-being = 35)
      - Open-ended question: how walking makes you feel emotionally & physically

CONCLUSIONS

- Although exertion & fatigue scores were statistically significantly worse after walking, patients experienced little exertion or fatigue & the decline was not clinically important
- In stable patients awaiting heart transplant, ambulating with PA catheter is safe & results in enhanced sense of well-being; interdisciplinary protocol detailing patient criteria & safety measures is essential
- Patients should be better prepared to undergo transplant surgery

BACKGROUND

- Traditional care for patients with PA catheters is bedrest →
  - Social isolation & depression
  - Physical deconditioning
  - Higher risk for post-transplant complications
- But – can hemodynamically stable patients be ambulated safely with PA catheters?
- Important to help stable patients awaiting transplant maintain optimal physical & emotional condition, while ensuring safety

PURPOSE & SPECIFIC AIMS

- Purpose: To describe the physiologic & emotional responses to ambulation in patients with a PA catheter awaiting heart transplant
- Specific aims to determine:
  1. Changes in PA catheter position while ambulating
  2. If ambulation is associated with patients’ feeling of exertion & fatigue
  3. Patients’ perception of how ambulation affects their sense of well-being

Sample Description (N = 8 Patients & 147 Walks)

- Age: Mean = 53.9 ± 12.3 years; Range = 34 – 65
- Gender: 87.5% Male
- # of Walks: Mean = 29.4 ± 20.4; Range = 1 - 68

RESULTS

- Traditional care for patients with PA catheters is bedrest →
  - Social isolation & depression
  - Physical deconditioning
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- 1 of 147 patient walks (0.7%) had change in catheter position (2 cm)
- No catheter-induced arrhythmias
- No changes in PA catheter waveform

Patient # Week 1 Week 2 Week 3

2 35 35 32
3 32 33 32
7 27

- Aim 1: Change in PA Catheter Position
  - 1 of 147 patient walks (0.7%) had change in catheter position (2 cm)
  - No catheter-induced arrhythmias
  - No changes in PA catheter waveform

Aim 2: Borg Scale: Exertion

- Pre-Walk: 0.2
- Post-Walk: 0.52

- Pre-Walk: 0.2
- Post-Walk: 0.58

- Pre-Walk: 4
- Post-Walk: 3

- Pre-Walk: 3
- Post-Walk: 2

Aim 3: Sense of Well-Being

- Week 1: 35
- Week 2: 32
- Week 3: 33

- 1 Transplanted
- 2 Died

Clinical Outcomes

- 8 Patients
- 4 Transplanted
- 3 LVADs
- 1 Died

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