PICC-Related Upper Extremity Deep Vein Thrombosis (UEDVT)

Prevalence

UEDVT Prevalence
Approximately 10% of all DVTs involve upper extremities

Primary (20%)
- Venous Thoracic Outlet Syndrome
- Effort-related thrombosis (Paget-Schroetter Syndrome)
- Idiopathic

Secondary (80%)
- Catheter-related thrombosis
- Cancer-associated thrombosis
- Surgery or trauma of the arm or shoulder
- Hormone–induced coagulation abnormalities (i.e. pregnancy)

PICC-Related UEDVT Incidence Rates
- Symptomatic PICC-related DVTs
  - 1-4% incidence
- Asymptomatic + symptomatic PICC-related DVTs
  - Up to 38% incidence
  - Median time to thrombus: 8 to 12 days

Relevance

UEDVT Relevance Compared to Other Catheter Complications
- **Catheter-Related Bloodstream Infections (CRBSIs):** Less than 2.2% of PICCs have CRBSIs (per 100 catheters)\(^3\), \(^4\)
- **Occlusions:** Approximately 25% of catheters may become occluded\(^5\)
- **DVTs:** Asymptomatic + symptomatic PICC-related DVTs have shown a rate as high as 38%\(^2\)

Venous Thrombosis Risks \(^6\)

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Sequelea of UEDVT  
If a catheter-related venous thrombus develops, between the catheter and vessel wall, it may:
- Lead to complete blockage of the vein
- Become a life-threatening condition (pulmonary embolism)
- Have potential complications including, but not limited to, post-thrombotic syndrome

UEDVT Link to Infection and Occlusion  
- CVC placement provides a rich culture for bacterial growth because of foreign body response upon insertion of CVC
- As the biofilm layer develops it encloses and protects bacteria, which can lead to an increased risk of infection
- Post-mortem evaluation of 72 cancer patients with CVCs showed a strong correlation between catheter-related sepsis and CVC thrombosis
  - A fibrin layer was present on ALL catheters
  - Catheter-related thrombosis was present in 38% of cases
    - 23% of these had sepsis
    - No patients without catheter-related thrombosis had sepsis

PICC-related UEDVT is a significant clinical issue, has a very high prevalence rate compared to the other primary catheter-related complications and can lead to serious complications. Let this knowledge be your stepping stone in heightening your awareness of DVTs and the relationship to PICCs.

AngioDynamics retains a highly credentialed team of clinical specialists committed to providing educational support and training.

To learn more about our UEDVT accredited program,
“Reaching New Heights in Understanding CVC Complications: Heighten Your DVT Awareness”
call 1.800.833.9973 or go to www.angiodynamics.com

REFERENCES
6. JNCN, 2006, 4:889-901
10. Nifong, T., “Infection or clot – which comes first?” 22nd Annual Scientific Meeting of the Association for Vascular Access, Point/Counter Point Presentation, 9/11/08.

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