10 (S1281). - Tunneled Intravenous Catheters for Home Parenteral Nutrition Have a Lower Rate of Deep Vein Thrombosis Than PICC Lines in Inflammatory Bowel Disease

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**Introduction:** The most commonly used central catheters for home parenteral nutrition (HPN) were peripherally inserted catheters (PICCs) (47%) followed by tunneled catheters (43%) in a national registry of US-based HPN patients. Since IBD patients are at a higher risk of deep venous thromboembolism (DVT) and the risk of PICC-associated DVT in patients with IBD is significantly higher (6.8% vs 1.9% in non-IBD), we sought to compare the incidence of DVTs for our IBD patients on HPN with PICCs vs tunneled catheters.

**Methods:** A retrospective analysis was completed through a clinical management database and electronic medical record after receiving Institution Review Board approval. Adult patients with IBD (Ulcerative Colitis and Crohn’s Disease) who received HPN
between January 1, 2013, and June 30, 2019, were included. Electronic medical records were queried for the diagnosis of catheter-associated DVT during HPN therapy. Demographic and clinical variables were collected.

**Results:** 407 patients with IBD met inclusion criteria and had 744 catheter episodes with a total HPN duration of 317,777 days. Most commonly used catheters in our patients were tunneled (72%, n= 539), while PICCs were used in 28% of patients (n = 205). Tunneled catheters were used for significantly longer periods compared to PICCs (total catheter days for tunneled catheters 252,662 vs 65,115 for PICCs).

Of 744 catheter episodes, there were 33 instances of acute DVT resulting in an overall rate of catheter-associated DVT of 4.4%. Patients with PICCs had similar rates of catheter-associated DVT (5.4%) compared to tunneled catheters (4.1 %, p >0.05). When reviewing the data based on catheter days the overall DVT rate in our patient population was 0.10 per 1000 catheter days. PICCs had two times higher rate of DVT compared to tunneled catheters (0.16 vs 0.08 per 1000 catheter days, respectively). Unadjusted Odds Ratio (OR) for catheter-associated DVT in patients with PICCs was 1.332 (95% CI 0.639 – 2.799, p=0.44). Since tunneled catheters were used for significantly longer durations, a weighted analysis was performed. The OR, calculated using catheter days as the weight for each episode, revealed DVT risk with PICCs to be significantly higher at 3.665 (95 % CI 3.516 – 3.820, p< 0.05).

**Discussion:** In our study, IBD patients receiving HPN via a PICC had significantly higher odds of DVT compared to the use of tunneled catheters. Tunneled catheters for HPN therapy are preferred if the duration of therapy exceeds 4-6 weeks.
Figure 1: Graphical presentation of the comparison of DVT rates.

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