Repair of Central Venous Catheters in Home Parenteral Nutrition patients: Results of a large regional UK Centre

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In patients with chronic intestinal failure, parenteral nutrition remains a mainstay of treatment to meet their fluid and nutritional requirements. This requires long-term central venous catheter (CVC) access in order for patients to be discharged on home parenteral nutrition (HPN). In the majority of cases this is via tunnelled cuffed catheters. Complications of CVCs are well-described and include mechanical rupture or fracture of the line.[1] Such damage to the external portion can be repaired using a catheter specific repair kit. Few studies have documented the outcomes of repair kits. We outline the results of CVC repair in a regional HPN centre in Northern England.

The regional HPN database, where all line insertions and repairs are prospectively documented was reviewed for the period 2003-2019 over the duration of the service. All patients undergoing professional repair of their CVC were eligible for inclusion in the study. One patient who attempted to repair their own CVC with superglue was excluded.

In total 49 line repairs were carried out over this period in 42 patients. 47 out 49 repairs were for 9.6 FR catheters, 3 for 6.6 FR catheters. Reasons for repair were fracture below the clamp, blockage, fault at hub or accidental damage. The median number of days for line survival post repair was 264. Survival of line repair is outlined in Figure 1.Outcomes of line repair are listed in Table 1. The three cases of confirmed catheter associated blood stream infection following repair occurred at 23, 67 and 340 days after line repair. None of these were lines that had previously been repaired more than once. In two cases the organism was Staphylococcus Hominis, in the third Staphylococcus Epidermidis.

The study is the second largest reported study in adult patients worldwide, joint largest carried out in the UK and represents the largest study outside of the two historical national HPN Centres in England. The results of this study suggest that successful repair of CVCs can be carried out with lasting effect and without significant complication associated with repair itself. CVC repair reduces the need to replace CVCs, helping to avoid potential future vascular access issues for patients.

1. Dibb M, Lal S. Home parenteral nutrition: vascular access and related complications. Nutr Clin Practice. 2017; 32(6): 769-776.

Table 1. Outcomes of line repairs (n=49)

ıtcome	ımber
ll in use following first repair	
ll in use following second repair	
ne removal – further damage unable to be paired	
ne removal – patient successfully eaned/restored continuity/transplanted	
ne removal – confirmed CRBSI	
ne removal – elective replacement	
ne removal – line displaced	
ne removal – occlusion	
tient deceased	
ne removal – possible CRBSI	
ne removal – infection elsewhere	
ıtcome not documented	

Figure 1. Time until line removal/2nd repair