

PTU-074

ENDOLUMINAL BRUSHING OF OCCLUDED LONG TERM PARENTERAL NUTRITION CATHETERS IS ASSOCIATED WITH A REDUCED NEED FOR CATHETER REPLACEMENT

doi:10.1136/gut.2011.239301.202

M McMahon,^{*} A Teubner,¹ J Shaffer,¹ S Lal¹ *IFU, Hope Hospital, Salford, UK*

Introduction Maintaining venous access is paramount to survival in patients on home parenteral nutrition (HPN), but central venous catheter (CVC) occlusion is a significant reason for CVC removal; this occurs largely due to lipid or fibrin precipitate, so a standard clearance protocol using ethanol,

hydrochloric acid (HCl) and urokinase is well established.¹ Endoluminal brushing has been used to diagnose CVC sepsis and resolve occluded haemodialysis CVCs.² We aimed to evaluate the efficacy of endoluminal brushing of occluded HPN CVCs and whether the technique is associated with reduced need for CVC replacement.

Methods Data on patient with occluded HPN CVCs (median duration of HPN 29 months) presenting to a National IFU over 7 years were collected prospectively. Endoluminal brushes were withdrawn in March 2006 in the UK due to manufacturing issues so patients were divided into 2 groups: Brushing Group (patients presenting from Dec 2003 to March 2006, all of whom underwent CVC brushing with 'fibrin analysis system' (FAS) endoluminal brushes) and Standard Group (patients presenting from April 2006-Sept 2010, who were managed with a standard protocol of urokinase & ethanol flushing; 70% ethanol \pm 5000 units urokinase was used in patients predominantly on a lipid regimen; HCl \pm urokinase was used for glucose/electrolyte regimens). Statistical analysis was performed with chi-squared.

Results 68 episodes of line occlusion occurred in 44 patients (48% male; mean age 47) in the Brushing Group; of these, 20 patients had undergone failed treatment with the standard occlusion protocol before brushing. Successful clearance was achieved in 36 patients after a median of 1 brushing (range 1-4); line replacement was required in the other 8 patients (18%) after a median of 1.5 brushing attempts (range 1-4). In patients in whom brushing had been successful, 15 patients' lines reblocked after a median of 10 months (range 1-65). No complication related to brushing was recorded.

69 episodes of line occlusion occurred in 45 patients (52% male; mean age 50) in the Standard Group, with successful clearance achieved in 16 patients; line replacement was required in the other 29 patients (64%; $p < 0.01$ vs Brushing Group). In patients in whom the standard approach had been successful, 8 patients' lines reblocked after a median of 2.5 months (range 1-10).

Conclusion This is the first study to demonstrate that FAS endoluminal brushing is safe and effective in clearing occlusions in HPN CVCs & is associated with a significant reduction in the need for line replacement compared to standard techniques. If endoluminal brushes become available again in the UK, the technique should be evaluated in a prospective controlled study.

Competing interests None.

Keywords catheter complications, parenteral nutrition.

REFERENCES

1. Hardy G, Ball P. *Curr Opin Clin Nutr Met Care* 2005;8:227-83.
2. Raad I, Hanna H, Maki D. *Lancet Infect Dis* 2007;7:645-57.