manifestations of infection such as fever, rigors, and/or hypotension and a positive blood cultures obtained via CVC in the absence of other potential sources of infection. CVC were removed if severe, potentially life-threatening symptoms occurred. The incidence of CRBSI was measured as number of catheter-related episodes per 1000/catheter days.

Results A total of 58 children (26 male, aged 7.2±4.6 years) were reviewed. The indications for PN were motility disorder in 44.8%, short bowel syndrome in 36.2% and enteropathy in 19%. The catheters used were single-lumen tunneled Hickmann (82/108), double-lumen (26/108), peripheral inserted central catheter (2/108) and Broviac (1/108).

Thirty-one of 58 (53.4%); 15 M, aged 5.8±4.3 years) children developed 108 CRBSIs over the study period. The median (range) number of CRBSI episodes per patient was 1 (0–14). The overall catheter days was 58414 and the CRBSI rate was 1.85/1000 catheter days.

Only 23 (21.3%) catheters were removed because of life-threatening symptoms and 85 (78.7%) of catheters were salvaged and retained despite CRBSI.

By organism, 38% were gram positive, 34.2% gram negative, 21.2% polymicrobial and 6.5% fungal CRBSI. The most frequent gram positive and negative organism was Staphylococcus aureus (31.7%) and Klebsiella species (43.2%) respectively. Catheter infected with gram positive bacteria showed the highest rate of CVC salvage (gram positive 92.7%, 78.2% polymicrobial, 67.6% gram negative, 57.1% fungal infection; P<0.05).

The CRBSI rate for double-lumen catheters was significantly greater than single-lumen catheters (24.1% vs 4.8%; P<0.0001). Patients with a double-lumen CVC were found to be at increased risk for CRBSI development (HR 2.51; [95% CI 1.70–3.86]; P <0.01).

Conclusion CVC is possible in more than three-quarters of CRBSIs in children on long-term home PN for IF. Successful salvage may depend on the species isolated. CRBSIs caused by gram positive bacteria, the most bacteria causing CRBSI, had a CVC salvage rate approaching 93%. Effective antibiotic treatment without removal of the CVC should be considered as first line treatment. A single-lumen CVC should be the catheter of first choice. Further studies to identify predictive factors of catheter removal after CRBSI are required.