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**Introduction** Catheter-related blood stream infections (CRBSI) are a serious and life-threatening complication in the provision of HPN. European guidelines recommend antibiotic salvage of central venous catheters (CVCs) with CRBSI, wherever possible, to minimise repeated catheter replacement and preserve venous access, but this is based on limited reported evidence.[1]

**Methods** Data were analysed from a prospectively-maintained register of all confirmed CRBSIs occurring in patients on HPN since January 1993 to December 2011, managed in a National Intestinal Failure Unit (IFU). Diagnosis of a CRBSI was based on quantitative and qualitative assessment of central and peripheral blood cultures and pour plates. Treatment was commenced according a standardised protocol involving antibiotic and urokinase CVC locks and systemic antibiotic administration.

**Results** A total of 299 CRBSIs occurred in 138 patients (66 single CRBSI, 72 multiple CRBSI) with 377 patients having no catheter infections. The mean number of catheter days prior to developing an infection was 712 (range 5–6128). This represents an overall rate of infection in all patients of 0.39 per 1000 catheter days. A single microorganism caused 87.9% of infections, most commonly coagulase negative staphylococcus (CNS; 49.5% cases). Overall catheter salvage was achieved in 62.2% (intention to treat) of all patients presenting with CRBSIs (Coagulase negative staphylococcus 70.5% (105/149), MRSA 36.4% (4/11), polymicrobial infections 58.3% (21/36), other *Staphylococcus aureus* 48.3% (14/29) and miscellaneous 56.8% (42/74)). Line salvage was not attempted in 46 patients because of life-threatening sepsis (n=18), fungal line infection (n=7), mechanical catheter problems (eg, co-existing line fracture; n=18) and tunnel line infection (n=3). The catheter was removed in 37.7% (95/299) of cases. There were five deaths in patients admitted to the IFU for management of the CRBSI.

**Conclusion** This is the largest reported series of catheter salvage in CRBSIs and demonstrates that catheter salvage according to a standardised protocol is a safe and effective strategy to preserve essential venous access in patients dependent on HPN.

**Competing interests** None declared.

## REFERENCE

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## OC-035 RATES OF CATHETER-RELATED BLOODSTREAM INFECTION AND RISK OF CATHETER-RELATED VENOUS THROMBOSIS IN PATIENTS REFERRED FOR HOME PARENTERAL NUTRITION

doi:10.1136/gutjnl-2012-302514a.35

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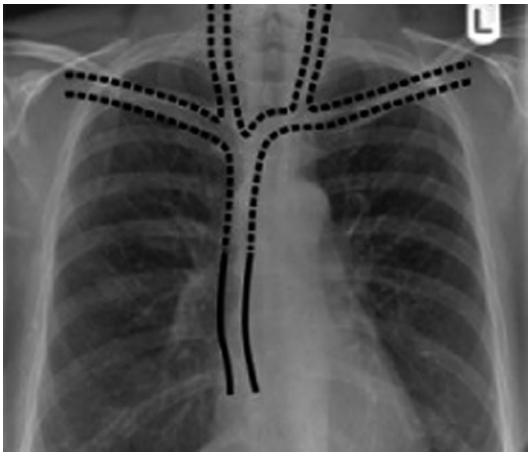
**Introduction** Parenteral nutrition (PN) via a central venous catheter (CVC) is associated with risk of thrombosis and catheter-related bloodstream infection (CRBSI). Factors believed to reduce the risk of infection include using a tunnelled CVC or peripherally inserted central catheter (PICC), and using a single lumen CVC where possible. A CVC tip above the mid-section of the superior vena cava increases thrombosis risk.[1] Strict aseptic technique is required to prevent CRBSI.

**Methods** Between 1st January and 31st December 2011 patients transferred to the St Mark's Intestinal Failure Unit with a CVC in situ for PN were assessed. We recorded CVC type, number of lumens, and CVC tip position (see Abstract OC-035 figure 1: dashed lines (mid & proximal superior vena cava (SVC), brachiocephalic, subclavian & internal jugular veins) & solid lines (distal third SCV, proximal & distal right atrium). CVC tip position in the dashed region is associated with a higher thrombosis risk (Cadman *et al*).[1] Blood cultures were taken from all lumens of the CVC. CVCs with bacteraemia were treated with antibiotics. If a CVC was felt to be unusable it was removed. Reasons included tip position, multiple lumens, unsuitable for long-term use (not PICC or tunnelled), or for use by patient (PICC), CVC-related sepsis, CRBSI at risk of seeding (*S aureus* or fungus), and >1 CVC in situ.




Abstract OC-035 Figure 1

**Results** 60 patients with 65s CVC from other centres were transferred. Some patients were admitted more than once. 24 were female and 36 were male, from 41 English Hospitals & two from Kuwait. 21 CVCs were tunnelled, 22 untunnelled, 21 were PICCs and one was a midline. Results are summarised in Abstract OC-035 table 1. 32(48%) CVCs had a tip that was too high, increasing thrombosis risk. 32% (21/65) of blood cultures were positive. 12 (18%) CVCs were retained and used. 13 (20%) were removed because of discontinuation of PN. 38 (58%) of CVCs were replaced.

Abstract OC-035 Table 1 Results

| Number of lumens | Tip position | Culture result | Outcome of CVC |
|---|---|---|---|
| 1: 33 (51%) | Good: 32 (49%) | Gram positive: 16 (25%) | Continued to use: 12 (18%) |
| 2: 20 (31%) | High: 31 (48%) | Gram negative: 4 (6%) | Removed, not replaced: 13 (20%) |
| 3: 8 (12%) | No CXR: 2 (3%) | Fungal: 1 (2%) | Removed, replaced: 38 (58%) |
| 4: 2 (3%) | | Sterile: 44 (68%) | Died: 1 (2%) |
| 5: 2 (3%) | | | Unknown: 1 (2%) |

**Conclusion** This data demonstrates that on transfer patients CVCs are often infected, have a tip that is too high and multi-lumen CVCs are placed inappropriately. Reasons may include lack of attention to aseptic technique, lack of awareness of the thrombosis risk from a high CVC tip, and lack of availability of single lumen tunnelled CVCs as stock.

**Competing interests** None declared.

## REFERENCE

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