

VASCULAR ACCESS

SO061 BARRIERS TO IMPLEMENTING A FISTULA-FIRST POLICY IN EUROPE

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Introduction and Aims: All guidelines recommend an arteriovenous fistula (AVF) as preferred bloodstream access. Still, many patients in Europe receive haemodialysis (HD) via a permanent catheter. This ERBP initiated study explored potential barriers related to attitude, organisation and reimbursement that may explain non-adherence to this fistula-first (FF) policy.

Methods: We developed an electronic survey with 35 items regarding factors potentially affecting choice and quality of HD access. Via national renal societies, we invited 61 experts from 37 countries in the ERA-EDTA community to provide national data on access preference, care delivery and reimbursement.

Results: In total, 44 experts (72% response rate) from 33 countries participated. The majority were nephrologists (89%) from public centres (86%) with ≥ 15 years of clinical experience (75%). *Attitude* Many respondents (84%) believed that a FF policy was justified by the current evidence base. However, only 36% expected an AVF to be a durable access in $>80\%$ of prevalent HD patients. When being presented different clinical cases, experts from 29 countries indicated that an AVF would be attempted in $>80\%$ of 40-yr old patients without comorbidities. In 9 countries this was believed to be the case in 75-yr olds with comorbidities. A FF policy was promoted in 23 countries.

Organisation Centralisation of HD access care was formally facilitated by service providers in 4 countries; this was informally arranged by groups of centres in 18 countries, and not at all in 11. The time between the request and the actual procedure for AVF creation was longer than for catheter placement in 21 countries and similar in 12. In many countries nephrologists were among those responsible for placing catheters (n=24), but this was seldom so for creating AVFs (n=7). Educational meetings on HD access were organised in 27 countries; 2 provided certified training. In 17 countries there was a formal multidisciplinary approach to HD access care in at least part of the centres. *Reimbursement* In 19 countries facilities received a fee per created access. In 13 of them the fee for AVF creation was higher than for placing permanent catheters; in 5 this fee was paid directly to clinicians.

Conclusions: Our study showed a positive overall attitude towards a FF policy, which became less apparent when applied to older and sicker patients. Future guidelines should thus be more specific about which patients could benefit from this policy. Reimbursement seemed to favour AVF. Besides limited access to dedicated and certified clinicians to create AVFs, we identified lack of formal care centralisation as a potential organisational barrier. Encouraging collaboration in HD access care might be warranted.

SO062 HEMODIALYSIS TUNNELED CENTRAL VENOUS CATHETERS: FIVE YEARS OUTCOMES ANALYSIS

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Introduction and Aims: Tunneled central venous catheters (TCVC) are considered inferior to fistulas and grafts in all nephrology guidelines. However, they are being increasingly used as haemodialysis vascular access. The purpose of this study was to document the natural history of TCVC to determine the rate and type of catheter replacement.

Methods: This was a prospective study of patients who are undergoing hemodialysis (HD) with TCVC on our renal unit between January 2008 and December 2012. Standard protocols, according to European Renal Best Practice (2007, 2010), detailing all aspects of preventive nursing care, early diagnosis, were well established. All catheters were inserted in the internal jugular vein (right 91 %). Complete data was available on 141 patients (age 73 ± 10 year) who used 154 TCVC. Criteria for catheter removal were (1) persistent bloodstream infection (repetitive blood culture 1 week after completion of antibiotic therapy); (2) detection of an outbreak of CRBS; or (3) catheter dysfunction (inadequate blood flow rate - $Q_b < 250$ ml/min) for three consecutive treatments. Event rates were calculated per 1,000 catheter days; TCVC cumulative survival was estimated according Kaplan Meier analysis.

Results: Catheter replacement occurred in 15 patient (0.29 per 1,000 days), catheter dysfunction with loss of patency was the main cause of replacement (0.18 per 1,000 days), typically within 12 months of catheter insertion. A total of 53 CRBS events in 36 patients were identified (0.82 per 1,000 days) There were 17 organisms isolated. The most common organisms were Gram-positive, comprising 62% of all species. Among Gram-positive pathogen isolated, most frequently were the Staphylococcus Epidermidis of which 87% MRSE, the Enterococcus of which 85% E. faecalis, the Staphylococcus Aureus of which 14% MRSA. Among Gram-negative (58% ESBL positive) most frequently were pseudomonaceae and enterobacteriaceae. The vast majority of CVC infections (87%) were cleared by systemic antibiotics associated with lock therapy. TCVC cumulative survival was 91% at 1 year, 88 % at 2 years and 85 % at 4 years.

Conclusions: Our data showed an high survival rate of TCVC in patient undergoing HD, with low incidence of catheter dysfunction and CRBS. Careful application of standard protocols in the dialysis staff contributed to achieve this results. These data justify TCVC use for hemodialysis vascular access, even as a first choice, especially in patients with exhausted peripheral access, abrupt failure or lack of a native arteriovenous fistula and in patients with limited life expectancy.

SO063 A RANDOMISED CONTROL TRIAL OF TAUROLIDINE-HEPARIN-CITRATE LINE LOCKS IN PREVENTION OF RECURRENCE OF CATHETER RELATED BACTERAEMIA IN HAEMODIALYSIS PATIENTS

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Introduction and Aims: Catheter related bacteraemia (CRB) is a cause of significant morbidity in patients maintained on long-term tunneled haemodialysis catheters for vascular access. Catheter salvage (antibiotic treatment without removal of the catheter) is advocated for individuals without signs of systemic sepsis, who have a favourable initial response to antibiotics. The study was designed to assess the hypothesis that taurolidine-heparin-citrate (THC) line locks are superior to heparin in preventing recurrence of CRB.

Methods: An open-label parallel-group randomised controlled trial was designed comparing THC (containing heparin 500units/ml) against heparin (5000units/ml) line locks. All patients on established haemodialysis within our in-centre and satellite dialysis units, with evidence of a CRB and who had commenced treatment for catheter salvage were considered eligible. Patients were randomised within two weeks of a bacteraemia to either THC or heparin line locks following each dialysis for 6 months, in addition to standard antibiotic therapy. The pre-specified primary outcome measure was bacteraemia free catheter survival. (Clinical Trial No: NCT01243710).

Results: 27 patients were recruited to the study with 13 patients randomised to heparin and 14 to THC. A significant difference in the primary outcome measure was seen with improved catheter survival in individuals receiving THC ($p=0.009$). No recurrence of CRB occurred in the THC group, while 5 catheters were removed in the heparin group during the six month trial period. The trial size was too small to meaningfully interpret pre-defined secondary outcome measures, though there was an increased thrombolytic use in the THC arm.

Conclusions: Despite the small study size, THC line locks appear to be beneficial in the prevention of recurrence of CRB. It is uncertain whether this is at the expense of catheter dysfunction at a later point. THC line locks should be used as an adjunctive therapy in the setting of catheter salvage, while their role as a standard line lock remains unclear.

SO064 IS FETUIN-A A BIOMARKER OF VASCULAR ACCESS (VA) FUNCTION IN CHRONIC HEMODIALYSIS (HD) PATIENTS?

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Introduction and Aims: The objective monitoring of VA function should be performed by measuring the blood flow (Q_A) (EBPG-2007). We have previously reported that the VA function is impaired (lower Q_A values) in patients (pts) with medial histological calcifications on the feeding artery (CKJ 2008; 1suppl 2: ii352). On the other hand, fetuin-A is a potent inhibitor of vascular calcification and, according to Chen et al (Am J Kidney Dis 2010; 56:720), is a predictor for VA patency. The aims of this prospective observational study were to investigate the relationship between serum