381 Totally Implantable Venous Access devices (TIVADs) in Cystic Fibrosis with particular reference to associated complications

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Cystic Fibrosis (CF) patients require repeated courses of intravenous antibiotics for respiratory infections and peripheral venous access can often become very difficult. TIVADs become necessary to ensure effective long term intravenous therapy. We report our experience on the use of these devices in children with CF with particular reference to the incidence and type of complications.
Method: Retrospective chart audit carried out on all CF patients who had TIVADs from 2001 to 2008. Data were collected on a proforma to include information on age, sex, date of insertion, length of time until complications and type of complication.
Results: 27 patients were identified as having a TIVAD over the time period with a total of 44 devices. Eleven children had devices inserted without complications. 23 complications occurred in 20 devices in 16 children. The complications included 9 mechanical problems, 6 access difficulties, 4 infectious complications and 4 devices migrated through the skin.55% of the mechanical problems, 25% of infectious complications and 50% of device migrations occurred in patients with CF related diabetes. Complications occurred in 28% of the devices used less than twice a year for the administration of antibiotics compared to 55% of the devices used more than 4 times a year.
Conclusion: There appears to be a high rate of complications with our TIVADs (52%) but this is similar to other studies. Complications are more common in patients with CF related diabetes and also more likely to occur the more frequently the TIVADs are accessed.
Recommendations: Careful patient selection, correct positioning of the device and adherence to aseptic technique for accessing and blood sampling may help reduce the risks associated with TIVADs.

382 Estimating risk associated with home-based intravenous antibiotic therapy (IVAT)

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Abstract body: Caring for people with CF involves balancing benefit against risk, which in some instances can be considerable. In a previous study, caregivers identified administration of IVAT to their child at home as particularly challenging. We are now conducting a multi-centre study to assess factors that impact on families as they undertake this complex healthcare task. Part of this study involves developing a checklist tool to identify a range of risk.
Aims: To establish a way of asking the question: "Is home-IVAT safe for this family?" and if it is not safe then: "what would make it safe?"
Methods: The risk tool instrument has been constructed through extensive consultation with professionals and caregivers and piloted for its face validity on patient data at Alder Hey. This instrument is hypothesised to predict adverse outcomes for home-IVAT:

i. caregiver mood,
ii. adverse drug events and
iii. adherence.

Findings: Information to assess risk is straightforward to find. Results from the study will enable a wide group of stake-holders to construct guidelines for home-IVAT administration through a method of consensus. A systematic approach to making a decision about giving home IV's and ensuring this is a safe option for families needs to be in place – a team approach.
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384 Multicenter prospective study about complications of totally implantable central venous access ports in Italian people with CF: preliminary results

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Background: The use of totally implanted venous access devices (TIVADs) in CF people has been increasing in recent years thanks to the advantages that this system ensures compared to external central venous catheters.
Methods: Observational, prospective multicenter study. All the Italian CF people with a TIVAD regularly attending a CF Center will be recruited and observed along a period of one year.
Preliminary Results (retrospective data): The study started on September 2008. So far we recruited 25 patients: 80% (n = 20) are women and the mean of age is 29.8 years (sd: 8.3).
Access: Huber needles is used to access the port and it is often/always fixed with transparent dressings in 3 patients. The disinfectants often/always used are Amukine (in 2 patients); povidone-iodine (in 17 patients); chlorhexidine (in 9 patients). The sterile technique is often /always used in 11 patients and the no-touch technique in 14 patient. When port is not use, the flushing occurred in 7 patients every 90 days.
Complications: PNX occurred in 1 patient. Eight out of 25 subjects had a previous TIVAD and it was removed due to infection in 4 patients, thrombosis in 1 patient, occlusion in 1 patient and other causes in 2 patients.
Discussion: Preliminary data suggest the lack of common standardized behaviours regarding the technical management of these devices and the most frequent complication is infection.
Clinical Trial registration: NCT00670579.
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385 Vascular stenosis in CF patients with totally implantable vascular access devices

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Introduction: Many people with CF have totally implantable vascular access devices (TIVADs) to aid the delivery of IV therapy. These devices have a good safety and reliability record, but a proportion need to be removed due to clot formation in the line itself or peri-catheter thrombosis, with an incidence of TIVAD-associated venous thrombosis of up to 20% in some series, and a number of reports of superior vena cava (SVCO) syndrome. In patients who have maintained correct TIVAD care (including anticoagulant flushing), the cause for this is unclear, but may be related to irritation and scarring of a central vein by the line itself. To study this further, we looked at our TIVAD patients who had undergone vascular imaging.
Method: At our large adult unit (263 patients, mean age 30 years, 51% male), 72 (29%) have had a TIVAD inserted. Of these, 11 (7%) underwent imaging by magnetic resonance (MR) scanning of the neck and upper torso: 9 prior to TIVAD revision and 2 for other reasons.
Results: All 11 patients had at least one vessel which was either stenosed or contained thrombus, and 9 (81%) had 2 or more veins affected. Seven patients (63%) had evidence of SVC stenosis, and all of these had collateral vessel dilatation on their scan but no indicative clinical signs. Three patients had a totally occluded SVC, but only 1 had clinical signs of SVCO.
Conclusion: This study suggests that venous stenosis associated with TIVADs is common, and is not usually evident on clinical examination alone. Its cause is unclear and requires further study, and it may contribute to device failure in some cases. All patients undergoing TIVAD reimplantation should undergo imaging with MR to assess the best site, and to assess the need for long-term anticoagulation following the procedure.