

## **The targeted use of Taurolock<sup>®</sup> to reduce central venous catheter sepsis in a home parenteral nutrition cohort.**

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### **Introduction**

Taurolock<sup>®</sup> (Bio-Implant HealthCare, Winsen, Germany) is an anti-microbial agent (taurolidine) with anticoagulant properties (citrate). There is evidence that Taurolock<sup>®</sup> is beneficial in reducing catheter related blood stream infections (CRBSI) in haemodialysis patients but less data regarding benefit in home parenteral nutrition (HPN) patients.(1,2) At St Mark's Intestinal Failure Unit Taurolock<sup>®</sup> is prescribed for patients with greater than three CRBSI in a 12 month period.

### **Aims**

The primary aim was to determine the incidence of CRBSI prior and subsequent to Taurolock<sup>®</sup> use. The secondary aim was to establish cost benefit from Taurolock<sup>®</sup> prescription.

### **Methods**

Retrospective audit using St. Mark's Intestinal Failure (IF) Database. CRBSI and Taurolock<sup>®</sup> prescription recorded on IF database. CRBSI defined as positive central venous catheter blood cultures with pyrexia  $\pm$  rigors. Simple cost analysis calculated at £8340 per hospital treatment for CRBSI (10 day in-patient admission) and Taurolock costing £11 per day.

### **Results**

All 16 patients (male 56.3%, mean age 44.8 years (range 23-73)) prescribed Taurolock<sup>®</sup> were selected. In the pre-treatment group mean duration from first CRBSI episode to Taurolock<sup>®</sup> prescription was  $602 \pm 317$  days. This pre-treatment group had a mean  $9.8 \pm 6.5$  CRBSI rate per 1000 catheter days. The treatment group (mean duration  $557 \pm 269$  days) had a mean  $3.3 \pm 3.4$  CVC related sepsis rate per 1000 catheter days. There was a significant difference ( $p < 0.001$ ) in CRBSI rate prior and subsequent to Taurolock<sup>®</sup> prescription. Treating CRBSI for 1 year in these 16 patients pre-Taurolock<sup>®</sup> cost approximately £367000 (440 in-patient days and antibiotic costs). Approximate treatment group costs were £228240 (£164000 hospital costs for treating CRBSI and £64240 for Taurolock treatment). One year cost savings of Taurolock<sup>®</sup> prescription was £138760.

### **Conclusions**

Taurolock<sup>®</sup> significantly decreases CRBSI rate in HPN patients. These results are in keeping with a Canadian group that managed to decrease CRBSI following treatment in seven patients. (2) Taurolock<sup>®</sup> prescription generates considerable cost savings in this cohort of patients.

### **References**

1. Geron R, Tanchilevski O, Kristal B. Catheter lock solution – taurolock for prevention of catheter related bacteremia in haemodialysis patients. *Harefuah* 2006 145 (12):881-884.
2. Jurewitsch B, Jeejeebhoy KN. Taurolidine lock: the key to prevention of recurrent catheter related bloodstream infections. *Clin Nutr.* 2005 24 (3):462-465