

Preparation of vancomycin (5 mg/ml, 3 ml) line lock in Pharmacy Aseptic Services for the treatment of catheter-related sepsis in home parenteral nutrition patients

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The home parenteral nutrition (HPN) service at Cardiff and Vale NHS Trust is a rapidly expanding area with 34 patients currently being cared for. While every effort is made to prevent catheter-related infections (CRI) by means of rigorous training, strict line care and aseptic technique, it is inevitable that they do occur.

The most effective means of eradication of such infections is removal of the colonised line. However, line removal carries drawbacks of its own, in particular, the risk of losing vascular access.

To avoid the need for line replacement, an intraluminal antibiotic lock may be used along with systemic intravenous antibiotics where *in situ* treatment is deemed acceptable. The evidence for using antibiotic line locks is sufficiently encouraging to justify their use.

The local guideline at Cardiff and Vale is to use a 5 mg/ml vancomycin line lock together with peripheral systemic vancomycin. This treatment has been used successfully in salvaging lines in 10 episodes of CRI over a 2-year period.

The National Patient Safety Agency (NPSA) promotes the safer use of injectable medicines and advocate ready-to-use preparations. In order to prepare the vancomycin 5 mg/ml line lock, a multiple dilution is necessary which when carried out at a ward level is in breach of NPSA guidelines⁽¹⁾.

A risk assessment of the process was carried out and a proposal for pharmacy aseptic services to prepare vancomycin 5 mg/ml line locks drawn up. It was proposed the pre-filled syringes would be kept as stock on the HPN specialist ward area.

The syringes of vancomycin 5 mg/ml were given a 56-day shelf life when prepared in plastic syringes and stored in a refrigerator^(2,3).

Having pre-filled vancomycin 5 mg/ml 3 ml syringes reduces manipulation at a ward level and so saves nursing time. The process is now NPSA compliant. As only one 500 mg vial of vancomycin is used to prepare a batch of 28 pre-filled syringes there is a cost saving compared with a vial being used for each dose when prepared on the ward.

The introduction of vancomycin pre-prepared line locks has proved a useful, much appreciated and safer step to the treatment of CRI.

1. National Patient Safety Agency (NPSA) alert 20. 28 March 2007.
2. Das Gupta V, Stewart KR & Nohria S (1986) *AmJ Hosp Pharm* **43**, 1729–1731.
3. Wood MJ, Lund R & Beavan M (1995) *J Clin Pharm Ther* **20**, 319–325.