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Maintaining haemodialysis Cathetr with High Concentration Heaprin Lock in ICU QEH
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Keywords:
HD Cathetr with High concentration Heparin Lock

Introduction
As our previous experience, there was frequent HD catheter clot with heparin 1000 units/ml as lock solution. Therefore, at present the current practice of heparin lock to HD catheter in our unit is using unfractionated Heparin 5000 units/ml. By using prospective data collection of all dialysis catheter insertion were recorded and catheter dysfunction were documented

Objectives
To review the effectiveness of maintaining the patency of HD catheter by using high concentration heparin lock

Methodology
Prospective data on all HD catheters and perm catheter insertion and the incident of catheter failure with 5000 units/ ml heparin lock from 1st June to 31st August of 2012 were collected. Each catheter was reviewed daily and before usage and catheter dysfunction was documented. The inclusion criteria were all centrally placed venous catheters with heparin lock and the exclusive criteria was catheter inserted yet without subsequent usage. The definition of catheter dysfunction included: 1) catheter blockage 2) blood clot seen on aspiration 3) unsmooth blood flow on dialysis session which excluding suboptimal catheter position, unstable haemodynamic or intra-vascular volume deficit.

Result
There were total 97 new catheters were inserted with heparin lock (including 91 nos. of HD catheters and 6 nos. of perm catheters). The total HD catheter day was 432 days and mean duration of HD catheter was 4.75 days. The total perm catheter day was 72 days and mean duration of perm catheter was 12 days. There were 17 incidents of catheter reinsertion during the study period (13 cases reinserted with two times while 4 cases reinserted with three times). The main reasons for catheter reinserted were: 1) 47.6 % suspected line-related sepsis or documented catheter-related bacteraemia 2) 14.3% new organ failure after initial recovery 3) 23.8% scheduled catheter change (usually after 7 days) and 4) 14.3% others. There was no report of catheter dysfunction during the study period. Renal failure requiring

acute dialysis support is common as part of multiple organ dysfunction syndrome among ICU patients. Acute renal failure takes time for recovery that reported dialysis dependence at Day 18 = 13.3% and 45.2%. Temporary renal support with HD catheter or perm catheter as vascular access is therefore expected to be kept for days or even weeks. Line sepsis (either suspected or documented) is the most common reason for catheter change in our unit. Heparin lock with 5000 units/ml is effective in ICU patients (No incident of catheter dysfunction is reported in this cohort study).