

COMPARATIVE STUDY ON EFFICACY AND SAFETY OF LOW DOSE HEPARIN INFUSION IN INTRAVENOUS FLUIDS TO PREVENT PERIPHERALLY INSERTED CENTRAL CATHETER (PICC) LINE OCCLUSION AMONG NEONATES

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INTRODUCTION

Central venous catheters aid in providing optimal care among neonates hence maintaining its patency is of utmost importance. Literature recommend heparin infusion to prolong the use of Peripherally Inserted Central Catheter (PICC) lines. However, there is limited studies on doses. Despite the knowledge on heparin, its benefits versus harm is cautiously weighed. This study aims to compare the efficacy and adverse effects between two heparin doses.

METHODS

A randomized control trial was conducted involving 42 neonates requiring PICC lines. The study had two groups: low dose heparin (0.5units/kg/hr =0.2units/ml) and control group (0.5units/ml). The primary outcomes were duration of catheter patency, completion of catheter use and the presence of catheter occlusion or thrombosis. The secondary outcomes include heparin complications.

RESULTS

The study participants had a mean age of 17 days old at 35 weeks gestational age and mean weight of 1.97kg. The participants given low dose heparin was 36% more likely to complete the use of central line and 12% less likely to develop catheter occlusion. Analyses showed non-statistically significant risk ratio of active bleeding (aRR=2.63,95%CI=0.45-15.25), thrombocytopenia (aRR=1.36,95%CI=0.90-2.72), and deranged prothrombin time (aRR=0.99,95%CI=0.98-1.01) in the low dose heparin group.

CONCLUSION

The use of low dose heparin (0.2units/ml) appears as effective as the control dose in completion of catheter use and prevention of catheter occlusion. However, it is not associated with an increase in catheter patency duration. Low dose heparin can be used as continuous infusion for preventing central line occlusion however it has no advantage in lowering the risk for complications.

