



Service Priorities and Programmes Electronic Presentations

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To Investigate Post-operative Hemoglobin Level in Geriatric Hip Fracture Patients

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Introduction

Nowadays, post-operative hemoglobin drop after hip fixation is still a major issue. Lower post-operative hemoglobin level was shown to have poorer outcomes for patients.

Objectives

This study aims at investigating the magnitude of post-operative hemoglobin drop after gamma nail and hemiarthroplasty, determining if there is significant difference in the hemoglobin drop between two groups and identifying the needs of post-operative blood transfusion for both groups. It is hypothesized that patients with intertrochanteric fracture and undergo gamma nail will have significantly greater post-operative hemoglobin drop than those undergo hemiarthroplasty.

Methodology

A retrospective study performed on 247 patients who were 65 years old or above, admitted in the Prince of Wales Hospital from June 2013 to December 2013 due to hip fracture. They underwent gamma nail and hemiarthroplasty with serial blood taking peri-operatively. Types of operation, hemoglobin levels and use of blood products were recorded. Paired t-test was used to assess any statistically significant drop for each groups and independent t-test was used to identify any significant difference for the greatest post-operative hemoglobin drop for both groups. Correlation between types of operation and blood transfusion was identified by chi-square test.

Result

The hemoglobin level on operation day for gamma nail group was statistically lower than those for hemiarthroplasty group ($p < 0.001$). The mean drop in hemoglobin on operation day and the largest drop for gamma nail group were 1.25 ± 1.13 g/dL and 2.28 ± 1.38 g/dL respectively. Those for hemiarthroplasty group were 0.88 ± 0.99 g/dL and 2.57 ± 1.33 g/dL respectively. Both groups demonstrated statistically significant drops in hemoglobin level on operation day and the lowest post-operative level from the pre-operative value ($p < 0.001$). There was significantly greater hemoglobin drop

for gamma nail group than hemiarthroplasty group on operation day ($p = 0.046$), but no significant difference in the greatest post-operative drop between two groups ($p = 0.213$). 51.5% patients underwent gamma nail received post-operative blood transfusion versus 28.4% of hemiarthroplasty group received. Undergoing gamma nail was positively correlated to post-operative blood transfusion ($p = 0.006$). It is crucial to monitor hemoglobin level constantly after gamma nail and hemiarthroplasty and look for other sources of bleeding if patients have more hemoglobin drop than predicted or continuous hemoglobin drop after blood transfusion.