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Blood transfusion in orthotopic liver transplant does not affect long-term survival: A single centre study

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Introduction & Aim: Recent developments have reduced blood transfusion requirements in Orthotopic Liver Transplant (OLT). Some studies show increased transfusion causes increased mortality. Our findings in Perth, WA look for pre-operative factors that led to blood transfusion and its impact on patients.

Method: It is a retrospective review of 211 patients who received OLT during 2000 to 2013 at the Sir Charles Gairdner Hospital, Perth. Recipients were divided into 2 groups based on Red Blood Cell (RBC) transfusion requirement. A number of pre-operative factors such as hemoglobin, INR, platelets, cold ischemic time, albumin, bilirubin, creatinine, MELD score and operating time were analyzed with step-wise regression. The aim was to look for pre-operative factors that will impact red blood cell transfusion. The survival curve was then plotted to determine the relationship between transfusion and survival.

Results: The mean age when they received their OLT was 48.4 12.1 with a median of 52. Male to female distribution was 72% versus 28%, respectively. Survival was 90.5% at 1 year and 86.2% at 3 years. 105 patients (49.7%) received no RBC transfusion, 106 patients (50.3%) received at least 1 unit. Both group had similar MELD score of 17.30 8.7. 8 out of 32 HCC patients received RBC transfusion. Simple linear regression shows hemoglobin, INR, albumin, bilirubin, operative times to be statistically significant ($P < 0.05$). Multiple linear regressions only found hemoglobin, albumin and operative times to be significant. Kaplan Meier survival curve comparing the two groups was not significant.

Conclusion: The overall transfusion rate was at 50.3% with an average of 2.75 units. This was consistent or even lower compared to other studies. Rather than RBC transfusion, it is generally other factors that are linked to a poorer outcome such as age, sex, HCC and comorbidities. Therefore, there is weak evidence to associate transfusion with increased mortality.

Biography

Shabnam Islam is a surgical registrar working at Royal Perth Hospital in Western Australia. She is an advocate for surgical safety and improved patient care. She is currently pursuing her Masters in Surgery with University of Western Australia while working in WA State level 1 trauma centre in Perth.

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