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Role of restrictive transfusion strategy on post-operative complication and prosperity of Thai patient upon total knee replacement

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Background & Aim: Blood transfusions have been reported to cause post-operative complications. Despite the protocol were conducted to minimize the utilization of blood transfusion and improve the standard of care in blood transfusion strategy, there are no consensus on transfusion indication threshold. This study assessed the effect and complication after changing transfusion indication threshold in patients undergoing Total Knee Replacement (TKR).

Materials & Methods: This retrospective study evaluated on post-operative complication and well-being of patients undergoing TKR on the basis of restrictive blood transfusion strategy (Hb level below 8 g/dL and/or presence of symptoms of anemia) compared with patients who undergoing liberal blood transfusion strategy (Hb level below 10 g/dL) at Police General Hospital between November-2016 to December-2017, approved by the Ethics Committee in Human Research. One hundred and twenty (120) patients were studied. Patient's demographics, perioperative parameter and postoperative complications in conjunction with well-being status based on length of hospitalization were compared between groups. Statistical analysis was compared and analyzed using Student t test, Pearson's chi-square test, Fisher exact test t-test, and odd ratio at $\alpha=0.05$.

Results: Of 120 patients, 9 of 49 patients (18.37%) in the restrictive group and 0 of 71 (0%) in the liberal group were transfused. The frequency of post-operative cardiovascular, respiratory, gastrointestinal, infection and other complication did not differ significantly between groups ($p>0.05$), except that there were more neuropsychiatric complication in the restrictive group than in the liberal group (in 16.3% vs. 1.6% of patients; 95% CI 1.43-101.97), whereas the length of hospital stay was not different between groups ($p>0.05$).

Conclusion: Patients undergoing TKR, postoperative complication was not significantly higher with restrictive transfusion strategy than with a strategy of liberal blood transfusion. This indicated that the restrictive transfusion strategy is considered relatively safe and can be effective as a blood-conservative algorithm to reduce blood transfusion after TKR.

Biography

Vongtawan Juntavee has graduated Doctor of Medicine (MD) from the Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand. He has been training in Orthopedic Surgery at the Department Orthopedic surgery, Police General Hospital, Royal Thai Police, Bangkok, Thailand. He is currently a Medical Staff at the Faculty of Medicine, Mae Fah Laung University, and Chiang Rai, Thailand. His open and contextual evaluation based on the role of restrictive transfusion strategy on post-operative complication and prosperity of Thai patient upon total knee replacement. He has built this model after years of experiencing in surgical treatment of patient in hospital and education institutions.

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