

**Randomized Clinical Trial to Evaluate the Safety of Avoiding Pre-operative Transfusion in Sickle Cell Anemia**

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**Background:** Patients with sickle cell anemia have an increased chance of undergoing surgical procedures with higher morbidity. The practice of pre-operative blood transfusion for such patients is still controversial.

**Objective:** The aim of the study was to evaluate and assess the safety of avoiding pre-operative transfusions in patients with sickle cell anemia.

**Design:** Prospective randomized clinical trial.

**Setting:** Surgical departments, King Abdulaziz University Hospital and King Fahed Armed Forces Hospital in Jeddah.

**Method:** A randomized clinical trial of 369 sickle cell anemic patients with a median age of 16 years old (range: 1-35 years old), underwent surgical procedures between November 1996 and November 2001. Surgical procedures included adenoidectomy, tonsillectomy, total hip arthroplasty, cholecystectomy, splenectomy, and Obstetric and Gynecological surgeries. Patients with stable clinical and hematological state were randomized into two groups: Group I (n=181), received no pre-operative transfusion and Group II (n=188) received simple or partial exchange transfusion pre-operatively. All patients were carefully hydrated and good oxygenation was maintained.

**Result:** None of the patients developed major intra or postoperative complications in both groups. Fourteen percent of the pre-operative transfusion group developed postoperative complications versus 7% in non-transfused group with a significant P value (0.002).

**Conclusion:** Avoidance of pre-operative transfusion is a safe practice in properly selected steady state sicklers. On the contrary, it is believed that the risks associated with transfusion were avoided.

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