

# Anemia after kidney transplantation: prevalence, risk factors, and influence on graft and patient survival

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## OBJECTIVES

**Post transplantation anemia (PTA) is common. Apart from the usual causes of anemia due to CKD renal transplant recipients have various unique factors predisposing to anemia. Post-transplant anemia and its influence on transplant outcomes have not yet been reported from the Middle East in the era of erythropoietin.**

## METHODS

Out of 2000 renal transplant recipients who were transplanted at Hamed Al-Essa Organ transplant center of Kuwait, 183 of them (9.15%) were maintained on erythropoietin. Six months post-transplant, patients who did not achieve target hemoglobin (HB>12 grams/dl) comprised group 1(n=36), while those who had Hb less than 12 will comprise group2 (n=147). We evaluated these cases for possible causes of resistant anemia especially ferritin, transferrin saturation, serum iron, folic acid, vitamin b12 and creatinine; in addition to the type of immunosuppressive regimen used and parvovirus.

## RESULTS

Majority of patients in both groups were females (67.3 vs. 69% respectively; p=0.86) with mean age of 42.7±16.3 vs. 37.2±15.6 years (p=0.11). In the studied groups, the prevalence of anemia was 88.8%vs. 78.3 %(p=0.18) in both groups with an overall prevalence (83.5%) at the time of discharge or two weeks following transplant whichever it was the last which decreased to 79.1% 6 months post-transplantation. While mild anemia was reported in 26.4%, and moderate in 36.4%, it was severe in 33.6% after 6 months of transplantation. Serum iron was significantly lower in anemia group (p=0.01).Most of the anemic patients received grafts –preemptively-from cadaveric or unrelated donors, while most of non-anemic group got their grafts from related donors. We observed that patient age correlated negatively with serum iron(r=0.215, p=0.048); serum ferritin correlate negatively with HB 6 months post-transplantation (r=-0.328; p=0.004). There was no significant difference in patient or graft outcome among different groups (p>0.05).

## CONCLUSIONS

**Iron use remains suboptimal in renal transplant recipients. Live related donors and exogenous EPO are protective. Presence of post-transplant anemia at 6 months did not influence graft or patient outcome. Proper management of anemia in CKD patients before transplantation is crucial.**

