RENAL TRANSPLANTATION IN PATIENTS WITH SICKLE CELL DISEASE

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**Purpose:** Improved long-term survival in patients with SC disease has resulted in increasing number of SC Disease ESRD patients for renal replacement therapy. USRDS data show high mortality in this group. Nevertheless transplant patients with SC Disease have better long-term survival than waiting patients. We annually perform 170 renal transplants. During 2001, we developed a policy to accept SC Disease patients who did not demonstrate advanced systemic complications that would preclude transplant surgery.

**Method:** Our Transplant Candidate Review Board consists of Transplant Physicians and surgeons, coordinators and social workers. It reviewed each SC disease ESRD patient. Patients with advanced cardiac, hepatic or pulmonary involvement were excluded. Prior SC crisis was not a contraindication to transplant candidacy. All risks and complications including decreased long-term graft survival and increased mortality were discussed. Patients were also informed of potential for increased infections, graft thrombosis and frequent post transplant SC crisis due to increased hemoglobin. A full informed consent was obtained. All patients received IV hydration, bicarbonate infusions and hydroxyurea during past operative period. Hemoglobin over 11 was treated with phlebotomies.

**Results:** We transplanted 3 black females with SC Disease ESRD ages 33, 34, 49 during 2001. All had prior history of multiple SC crises. 1 received LRD and 2 received cadaveric allografts. Patients were treated with prednisone, calcineurin inhibitor and either MMF or sirolimus. One patient received 13 doses of ATGAM due to delayed Graft function and second received 2 doses of simulect during postop period. All three received hydroxyurea and 2 remain on the drug. No rejections were noted and the mean creatinine is 1.2. Two patients have experienced several SC crises requiring hospitalizations. The mean Hgb is 8.5. No other major complications have occurred with 2/3 patients now 1-year post-transplant.

**Conclusion:** SC Disease ESRD patients should be considered for transplantation in the absence of advanced systemic complications. The morbidity and mortality is reduced with careful evaluation and post-transplant management. Better short-term and long-term outcomes can be achieved due to aggressive pre-transplant screening, post-transplant IV hydration and bicarbonate infusions, better induction therapies, hydroxyurea and preemptive phlebotomies.

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