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# Renal Transplantation in Leprosy[1]

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An improvement in the facilities available for treatment of chronic renal failure in areas endemic for leprosy will result in a number of leprosy patients becoming potential renal allograft recipients. Documentation of the natural history of this disease following transplantation is therefore important.

The only published report of renal transplantation in leprosy deals with a case of lepromatous leprosy ([1]). We now report a patient who had tuberculoid leprosy with chronic renal failure treated by renal transplantation.

## CASE REPORT

The patient, a 42-year-old man, presented with pedal edema, attacks of paroxysmal nocturnal dyspnea and increasing effort intolerance for four months. He was known to be a diabetic and was on irregular treatment with glibenclamide and calorie restriction for the past 12 years.

On examination there was ankle edema, a blood pressure (BP) of 210/90 mm Hg, and left ventricular hypertrophy. An asymptomatic well-defined 3 × 4 cm anesthetic hypopigmented macule was present on the posterolateral aspect of the left forearm with thickening of the left ulnar nerve. The optic fundus showed diabetic and hypertensive changes. Laboratory investigations revealed microcytic hypochromic anemia; normal total and differential leukocyte counts; erythrocyte sedimentation rate (ESR), 75 mm/hr; 24 hr urine protein excretion, 8.9 g; blood urea, 65 mg%; serum creatinine, 5.6 mg%; creatinine clearance, 13.8 ml/min and a diabetic response on oral glucose tolerance testing. Serum total complement activity was normal. An intravenous pyelogram showed bilaterally contracted kidneys with poor renal function.

A diagnosis of chronic renal failure with hypertension, diabetes mellitus, and tuberculoid leprosy was made. He was discharged from the hospital on treatment with glibenclamide 2.5 mg/day, a 1500 calorie diet, methyldopa 250 mg twice daily and dapsone (DDS) 50 mg/day. He was asked to consider the possibility of undergoing renal transplantation.

The patient returned to the hospital 5 months later with his sister, who had agreed to be the kidney donor. He was started on regular hemodialysis to improve his general condition prior to renal transplantation. Since it was expected that his leprosy would undergo exacerbation with immunosuppression, this lesion was reevaluated. The patch was still hypopigmented, but 5 months of DDS therapy had resulted in partial resolution and a skin biopsy showed only residual lymphocytic infiltration in and around small dermal nerve twigs, without demonstrable acid-fast bacilli. A lepromin test showed a positive Mitsuda reaction with 7 mm of induration and granulomatous inflammation without acid-fast bacilli on biopsy.

After renal transplantation, the patient was started on prednisolone 150 mg and azathioprine 200 mg/day in addition to DDS and diabetic control measures. At the time of discharge from the hospital, 1 month after transplantation, he was on a maintenance dose of prednisolone, 25 mg, and azathioprine 100 mg/day. Blood urea was now 30 mg% and serum creatinine 1 mg%. The blood pressure was normal.

Subsequently, good renal function was maintained until an episode of acute rejection nine months after transplantation. This was treated with dexamethasone 160 mg and cyclophosphamide 200 mg intravenously, on 3 alternate days following which re-

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nal function returned to normal. At this time, after 15 months of DDS treatment, the skin lesion had healed completely, clinically.

Eleven months after transplantation he was readmitted with a blood urea of 94 mg% and serum creatinine of 6.2 mg%. This time renal function did not improve in spite of high doses of immunosuppressive drugs. A diagnosis of chronic rejection was made and hemodialysis was restarted. Soon after the second dialysis the patient had a cerebrovascular accident and died.

## DISCUSSION

Although renal amyloidosis and glomerulonephritis are common in patients with leprosy, these are generally associated with the lepromatous end of the disease spectrum ([2]). Renal failure in this patient was therefore probably unrelated to his leprosy and may have resulted from advanced diabetic glomerulopathy.

The patient reported by Adu, *et al.* ([1]) had exacerbation of leprosy with severe recurrent erythema nodosum leprosum and worsening of renal function due to immunosuppression following transplantation. This is in contrast to our patient who showed continued healing of leprosy in spite of immunosuppression. This difference is undoubtedly related to the fact that these two patients were at opposite ends of the leprosy disease spectrum. Also, the patient of Adu, *et al.* ([1]) had discontinued regular DDS treatment for many years before the transplantation.

The evolution of adequately treated lepromatous and borderline leprosy after renal transplantation has not yet been documented, but as evidenced by the patient reported here, tuberculoid leprosy at least, is not a contraindication to renal transplantation.

## SUMMARY

A patient with tuberculoid leprosy and chronic renal failure was given a renal allograft after 5 months of dapsone (DDS) treatment. The leprosy showed continued healing in spite of immunosuppression and was not a significant cause of morbidity. Tuberculoid leprosy does not appear to be a contraindication for renal transplantation.

## RESUMEN

Un paciente con lepra tuberculoide y falla renal crónica recibió un aloinjerto de riñón después de 5 meses de tratamiento con dapsona (DDS). La enfermedad leprosa continuó en proceso de curación no obstante la inmunosupresión y no fue una causa significante de morbilidad. La lepra tuberculoide no parece ser una contraindicación para el transplante renal.

## RÉSUMÉ

Un malade atteint de lèpre tuberculoïde et de décompensation rénale chronique a reçu une allogreffe rénale après 5 mois de traitement par la dapsone (DDS). La lèpre qui l'affectait a continuer à évoluer vers la guérison, malgré l'immunosuppression; elle n'a pas constitué une cause significative de morbidité. La lèpre tuberculoïde n'apparaît pas être une contre-indication pour la transplantation rénale.

## REFERENCES

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