IMPROVEMENT OF CHRONIC ALLOGRAFT NEPHROPATHY BY REDUCING CALCINEURIN INHIBITOR WHILE INDUCING MYCOPHENOLIC ACID INTO TREATMENT

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Chronic allograft nephropathy (CAN) still is the main cause of graft failure in renal transplantation. Because of its possible antifibrotic effect mycophenolic acid (MPA) often is discussed to prevent and even to treat CAN.

We retrospectively analyzed the effect of calcineurin inhibitor (CNI) reduction while inducing treatment with MPA in 113 patients with various stages of biopsy-proven CAN (Banff 1997; CNI dose reduction 40%; MPA dose adjusted to renal function). Patient age was 53 ± 19 years and mean time after transplantation was 6 ± 5 years. All patients received an immunosuppression with calcineurin inhibitor and prednisolone. Graft function was impaired with a mean creatinine of 254 ± 132 µmol/l at the start of treatment change, and there was a creatinine increase up to 12 months before. The observation period was 2 months until 8 years. Patients with intolerance of MPA because of side effects were excluded.

After treatment change, 42% of patients (n=47) experienced an improvement of graft function, 37% (n=42) a stabilization, and 21% (n=24) continued to deteriorate graft function. Further deteriorating graft function was significantly more observed in patients, who had shown nephrocalcinosis in the initial biopsy (13/24 vs. 12/89 patients, $p<0,01$), or transplant glomerulopathy (TxGP) in connection with glomerulosclerosis. Improvement of graft function was seen significantly more often in patients with tubular atrophy and interstitial fibrosis of a grade below 15% ($p<0,01$), while in those with 20% or more the graft function regularly deteriorated. Vascular changes like arterial hyalinosis and arteriosclerosis did not influence graft function after treatment change.

Reduction of calcineurin inhibitor and introduction of MPA causes improvement (42%) or stabilization (37%) of graft function in most cases. In patients with nephrocalcinosis or coincidence of transplant glomerulopathy with glomerular sclerosis these measures have no effect. Triple immunosuppression should be initiated before advanced tubular atrophy and interstitial fibrosis occur.