

WHY THE RENAL TRANSPLANT DOES NOT DEVELOP CYSTS?

A. Schwarz¹, W. Gwinner¹, S. Merkel¹, H. Haller¹, R. von Wasielewski², V. Broecker²

Department of Nephrology¹, Department of Pathology²
Hannover Medical School, Hannover, Germany

Background: Reduced renal function and the development of renal cysts is widely known association, and acquired cystic kidney disease of native kidneys develops in 30-50% of dialysis and 20-25% of renal transplant patients. Tissue loss that is associated with renal insufficiency is presumed to promote hyperplasia of tubular epithelial cells resulting in cyst formation. However, the renal transplant does not develop cysts, even if confronted with renal insufficiency from the day of transplantation and often remaining in situ after restart of dialysis treatment.

Working hypothesis: We presume that the cause for non-cyst-formation might be that the renal transplant has a defective tubular proliferation capacity and that this insufficient tubular proliferation at the same time might cause defective healing of acute tubular damage, as it is seen in protocol biopsies in up to 40% of patients after six months (Schwarz et al, *Kidney Int* 2005). Therefore we are going to investigate tubular proliferation by different markers (Ki-67, p21, p16, BCL2, Gremlin, and TNF-alpha) in protocol biopsies with and without acute tubular changes after 3, 6 and 12 months as well as in biopsies taken on indication after more than one year; normal native kidneys and those with moderate non-immunologic damage will serve as controls.

The work is still in progress, and the results will be presented. Defective tubular proliferation of the transplant could be an important pathophysiologic mechanism of progression of tubular atrophy and interstitial fibrosis.