

## **Immunophenotype of glomerular and interstitial infiltrating cells is associated with Banff histological diagnosis in protocol renal allograft biopsies**

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Protocol renal allograft biopsies simultaneously displaying chronic allograft nephropathy, that is, interstitial fibrosis and tubular atrophy (IF/TA), as well as subclinical rejection (SCR) have a shortened graft survival in comparison with normal biopsies, or biopsies only displaying IF/TA or SCR. It is not clear why the outcome of patients displaying IF/TA and SCR is so poor. Thus, the aim of this study is to evaluate the immunophenotype of glomerular and interstitial infiltrating cells in these four diagnostic categories.

Non-exhausted paraffin blocks from protocol biopsies done during the first year between 1995 and 2001 were selected and stained with anti-CD45, CD3, CD20 and CD68 monoclonal antibodies. Glomerular and interstitial positive cells were counted. C4d deposition in peritubular capillaries was also evaluated.

Histological diagnosis were: normal (n=80), IF/TA (n=42), SCR (n=17), and IF/TA+SCR (n=17). Interstitial CD20 positive cells was the only cell population that was significantly increased in patients displaying IF/TA+SCR in comparison to the other categories; normal ( $139 \pm 115$ ), SCR ( $196 \pm 142$ ), IF/TA ( $203 \pm 146$ ) and IF/TA+SCR ( $286 \pm 180$  cells/mm<sup>2</sup>),  $p < 0.01$ . The proportion of biopsies displaying C4d deposition on peritubular capillaries was not different among groups. The association between the number of infiltrating glomerular and interstitial cells with death censored graft survival was analysed and only the number of interstitial CD20 positive cells was associated with death censored graft survival (relative risk 2.75, 95% confidence interval 1.04-7.26).

These data suggest that B cell rich infiltrates in protocol biopsies are associated with a more severe histological damage and poorer outcome.