

## **Influence of Acute Rejection on Cardiac Allograft Vasculopathy Development in Transplanted Hearts**

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**Background:** Cardiac allograft vasculopathy (CAV) is a progressive process affecting the transplanted heart causing severe long-term complications after heart transplantation and determining allograft function and patients' prognosis. The aim of this study was to analyze the relationship between the development of CAV and episodes of acute rejection.

**Methods:** A retrospective cohort analysis of 78 heart transplant patients followed up in our clinic was performed. Patients with hyperacute rejections were excluded from the study. The cohort was divided in two groups: those with and without CAV. The number of rejections occurring during the follow up period in each group was compared. **Results:** During median follow up of 6 years (IQR, 25th; 75th percentiles, 3 years; 10 years) 22 patients (28.2%) developed CAV in their transplanted heart. Rejection rate was higher in the group with CAV than in the group with normal coronary arteries (31.8% vs. 23.3%) but the difference did not reach statistical significance ( $p=0.4$ ). Patients with CAV had a trend towards higher rates of dyslipidemia compared to patients with no CAV (86.4% vs. 66.1%,  $p=0.09$ ). Ischemic cardiomyopathy was more frequently the cause of heart failure leading to heart transplantation in the group with CAV compared with the group with no CAV (72.7% vs. 44.6,  $p=0.03$ ).

**Conclusions:** A trend towards higher rejection rate among the group of patients with CAV was observed although the results did not reach statistical significance probably due to the small sample size. CAV was observed more frequently in patients that were transplanted due to ischemic cardiomyopathy.