CONCLUSIONS NIRS imaging was able to detect lipid core under a large, organized thrombus, with no evidence of outliers corresponding to the location of the LCP on the report of NIRS results. This finding supports the conduct of additional studies to fully characterize the ability of NIRS to detect LCP in the presence of organized thrombus.

CATEGORIES IMAGING: Intravascular

KEYWORDS Lipid-rich plaque, Near-infrared spectroscopy, Thrombus

TCT-350
Coronary Plaque Progression as Assessed by Intravascular Ultrasound after Cardiac Transplantation Is Decreased with Use of Antithymocyte Globulin Induction Therapy in a Dose-Dependent Manner
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BACKGROUND Intense perioperative immunotherapy at time of cardiac transplantation with antithymocyte globulin (ATG) has been associated with decreased incidence of angiographic cardiac allograft vasculopathy (CAV) but its association with coronary plaque progression on intravascular ultrasound (IVUS) has not been established.

METHODS Between March 2010 and December 2012, patients (pts) with baseline and 1-yr IVUS were included in the analysis. Plaque characteristics of matched left main and left anterior descending segments on baseline and 1-yr IVUS were measured in a blinded fashion with quantification software. Linear regression analyses were performed on the effect of the number of doses of ATG given for the IVUS variables of percent atheroma volume, max percent stenosis, maximal intimal thickness, and maximal intimal area.

RESULTS One-hundred and three pts were included in the analysis. Mean age at transplant was 55.8 ± 12.6 yrs and 33.0% of pts were female. 46/103 (44.7%) pts received an average of 3.9 ± 1.2 doses of ATG at time of transplant. Baseline and 1-yr IVUS were performed at 44.5 ± 12.1 days and 379.1 ± 27.0 days after transplant, respectively, and mean IVUS segment length was 37.2 ± 4.2 mm. Pre-transplant peak panel reactive antibodies was significantly higher in pts who were induced: 40.0 ± 38.9% vs. 9.2 ± 21.7% (p = 0.001). The number of ATG doses given was associated with decreased plaque progression across all four IVUS metrics by linear regression. Progression of percent atheroma volume between baseline and 1-yr IVUS was attenuated by 0.67% for each dose of ATG given (p = 0.038). Progression of max percent stenosis was attenuated by 1.53% for each dose of ATG given (p = 0.003). Progression of maximal intimal thickness progression was attenuated by 0.03 mm for each dose of ATG given (p = 0.028). Progression of maximal intimal area was attenuated by 0.29 mm2 for each dose of ATG given (p = 0.004). The dose-dependent attenuation of plaque progression is illustrated in Figure 1.

CONCLUSIONS Coronary plaque progression is attenuated with the use of ATG induction therapy as assessed by IVUS in a dose-dependent manner across four IVUS metrics. Further investigation is warranted to explore this relationship.

CATEGORIES IMAGING: Intravascular

KEYWORDS Cardiac allograft vasculopathy, Intravascular ultrasound, Transplant