Post transplant patients may develop cardiac allograft vasculopathy (CAV). CAV, also termed chronic rejection, is a complex process involving unique vascular proliferation with poorly understood immunologic features. It is the most common cause of mortality after the first year post transplant. Risk factors may include atherosclerosis, CMV disease, and recurrent rejection episodes requiring treatment.

Post transplant patients may not experience angina due to denervation of the transplanted heart. Therefore, the practitioner must pay particular attention to symptoms which could indicate ischemia (shortness of breath, unusual fatigue, volume issues, nausea, arrhythmias, new cardiac murmur, new wall motion abnormality, or new left ventricular dysfunction on echo).

**MONITORING**

Baseline coronary angiography will be performed within 2-3 months post-transplant, unless clinically contraindicated, and then yearly for the first three years post transplant. If angiography is contraindicated (usually due to renal insufficiency, clinical debilitation, or vascular access issues) an alternative non-invasive test will be substituted. Consideration of intravascular ultrasound will occur on an individualized basis.

After three years if there is no evidence of coronary artery disease then yearly dobutamine stress echocardiogram or other non-invasive assessment for ischemia will be performed.

Angiography will be done for abnormal stress test, new echocardiogram findings concerning for ischemia or symptoms of ischemia.

If the patient is not a candidate for percutaneous coronary intervention (PCI) coronary artery bypass grafting (CABG), or retransplant, angiography may be deferred.

For patients with documented CAV, angiography and/or non-invasive assessment for ischemia may be done every 6-12 months or sooner as recommended by transplant licensed independent practitioner (LIP) to monitor disease progression.

For patients with renal insufficiency (baseline creatinine ≥ 1.5) precatheterization pharmacologic renoprotective strategies will be aggressively employed.

Serum BUN, creatinine, and potassium will be checked 72 hours coronary angiogram.

**TREATMENT OF POST TRANSPLANT CARDIAC ALLOGRAFT VASCULOPATHY**

PCI and/or CABG will be considered as clinically indicated.

Statin therapy will be utilized unless contraindicated.

Treatment with Sirolimus will be considered for patients with CAV as determined by the LIP. Sirolimus has been shown to significantly reduce the progression of CAV without increasing the incidence of rejection. See Appendix 55 – Initiation of Sirolimus.
RESOURCES:
MICROMEDEX® Healthcare Series Vol. 117.

REFERENCES:


