The Evolving Long-Term Outcome of Heart Transplantation in Amyloid Patients

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Both amyloid light chain (AL) amyloidosis and transthyretin (TTR) amyloidosis are now expanding indications for heart transplantation (HTx). In the past, AL amyloid, in particular, had been a contraindication to HTx given its suboptimal control, systemic nature & progression to other organs, premalignant character, recurrence in allograft/transplanted organ, and the increased risk for mortality.

Background

Purpose

In past research, the 2-year survival rate of patients with cardiac amyloidosis is less than 20% without HTx compared to a survival rate of 60% after HTx.

We sought to assess long-term post-transplant outcome in amyloid patients in the current era, using our patient population that underwent HTx for cardiac amyloidosis at our single center.

Methods

• Between 2010 and 2015, we assessed 45 Heart Transplant Pts:
  • All Amyloid (n=27) -> broken up into AL (n=5), TTR wt senile (n=10), TTR mutant (n=12)
  • Non-Amyloid Restrictive Control (n=18)

• Endpoints included:
  • Subsequent 3-year survival
  • Subsequent 3-year freedom from CAV (as defined by stenosis ≥ 30% by angiography)
  • Subsequent 3-year freedom from non-fatal major adverse cardiac events (NF-MACE: myocardial infarction, new congestive heart failure, percutaneous coronary intervention, implantable cardioverter defibrillator/pacemaker implant, stroke).
  • Subsequent 3-year freedom from any-treated rejection, acute cellular rejection, and antibody-mediated rejection

Results Summary

There was no significant difference between the All amyloid and restrictive non-amyloid patients with respect to 3-year survival and 3-year freedom from CAV, NF-MACE, and rejection.

Furthermore, there was no significant difference between the AL amyloid, TTR-wt, TTR-m, and restrictive non-amyloid patients with respect to 3-year survival and 3-year freedom from CAV, NF-MACE, and rejection. Endomyocardial biopsies post-transplant did not show amyloid.

Conclusion

• In the current era, both AL & TTR amyloid patients have acceptable mid-term outcome after HTx.
• Larger numbers & longer follow-ups are needed to confirm findings.
• Need to consider sociological & economical components to analyze the capability of patients to undergo & afford such extensive Tx.
• RNA TAFAMIDIS THERAPY, Doxycycline, Green Tea for now!