Patient Compliance With Good Medical Therapy For TBADs Is Poor: How Can This Be Improved And What Is Its Impact On The Debate Over Optimal Treatment For These Patients

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BEST MEDICAL THERAPY IN TBAD

Patients receiving "best" medical therapy in chronic TBAD fare badly compared to those undergoing TEVAR
Leading to suggestions that TEVAR for uncomplicated dissection should be considered in all patients

Evidence for best medical therapy

Higher systolic blood pressure readings at night have prognostic significance, and are associated with an increased risk of aortic events during follow-up in those with TBAD

Beta blocker therapy appears to reduce outcomes from aortic related events

Systematic Analysis of Aortic Growth Rates after Type B Dissection
**Guidelines for Best Medical Therapy**

Aggressive anti-impulse therapy is the cornerstone of management in the majority of patients with TBAD who are currently managed conservatively.

Guidelines recommend goal-directed therapy to achieve a heart rate of less than 60bpm and systolic pressure of 100-120mmHg; goals which may require a number of pharmacological agents to achieve.

Beta blockers generally recommended alongside further regimes to control BP.

**HYPERTENSIVE POPULATION**

- General hypertensive population
  - 37% patients have controlled BP
  - 50% patients non-adherent in 1st year of treatment
  - Higher levels of adherence result in better BP control and reduced cardiovascular morbidity

- Rate of medication adherence unknown in TBAD

**CROSS SECTIONAL ANALYSIS OF TBAD PATIENTS**

- Overall medication adherence was poor
  - Mean MMAS-8 = 6.51/8

  - Medium Adherence
    - 17/47 (36.2%)
    - High Adherence
    - 20/47 (42.5%)
    - Low Adherence
    - 10/47 (21.3%)

**Psychological behaviours have a strong bearing on adherence**

- Demographics psychological and behavioural predictors of adherence
  - Previous aortic surgery (ß 0.332, p=0.03)
  - Greater number of medications (ß 0.332, p=0.026)
  - Fewer medication side effects (ß 0.272, p=0.014)
  - Better memory (ß 0.579, p=<0.001)
  - Higher perceived benefit (ß 0.486, p=<0.001)

- Overall patients had a poor knowledge about TBAD
  - Test score = 8.8/16 (94-14)

**Impact on recommendations for TBAD TEVAR**

- The knowledge of "best" medical therapy is unsatisfactory, and furthermore...

- Medication adherence is poor in TBAD patients
  - >50% of patients report sub-optimal adherence
  - Adherence especially poor in non-operative group

- Low levels of adherence may play a part in the high levels of aortic morbidity and mortality in this cohort

- Brings into question whether there has been a robust comparison of treatment strategies for TBAD when half of one treatment group do not receive the intervention that has very little evidence base?

**RECOMMENDATIONS**

- From the vascular community...A FOCUS ON EVIDENCE IS NEEDED
  - PROSPECTIVE DATA ON DRUG TREATMENTS
  - PROSPECTIVE TRIALS INVOLVING AGGRESSIVE MEDICAL THERAPY

- From a unit perspective...INTERVENTIONS TO IMPROVE KNOWLEDGE AND COMPLIANCE:
  - SPECIALIST DISSECTION CLINICS
    - Measurement of compliance
    - Monitoring patient's health behaviours to related events improves compliance with treatment
    - Coaching and oversight of treatment strategies
  - SHARED MEDICAL APPOINTMENTS
    - Increase knowledge of disease
    - Support and counseling
  - BEHAVIOURAL PSYCHOLOGY STRATEGIES
    - Text messaging and compliance strategies/med/behavior technology
    - Habit formation