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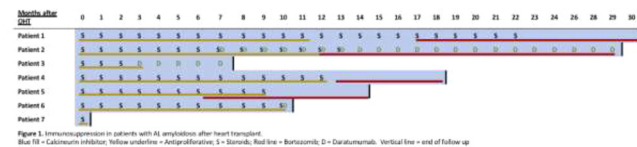
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**Purpose:** The optimal immunosuppressive therapy (IST) for patients with AL amyloid undergoing orthotopic heart transplantation (OHT) is not well defined. Our study aims to present the IST and outcomes after OHT in patients with cardiac amyloidosis at a large quaternary university hospital.

**Methods:** In a retrospective chart review, we performed a case series of all patients with AL amyloid who underwent OHT from Jan 2017 to Oct 2020. We assessed their IST and outcomes of survival, infection and rejection.

**Results:** We identified 7 patients with AL amyloidosis who underwent OHT. Three patients (43%) had Mayo Stage 3, and 4 (57%) patients had stage 4. Autologous stem cell transplant (ASCT) was performed in 4 patients with a median time from OHT to ASCT of 429 days. In patients who had bone marrow biopsy, amyloid was present in 21% and the mean plasma cells visualized by immunohistochemistry was 4.41%. IST after OHT consisted of a calcineurin inhibitor, antimetabolite and steroids initially. Some required treatment with bortezomib/daratumumab for sub-optimal duration or hematologic response to AL amyloid therapies prior to OHT at which time antimetabolite was stopped. Median time to antimetabolite withdrawal was 317 days. Median times to introduction of daratumumab and bortezomib after OHT were 283 and 388 days, respectively. Figure 1 displays the time series of IST. Renal involvement was the more prevalent extracardiac organ (57%), followed by gastrointestinal (43%), carpal tunnel (29%), and peripheral neuropathy (29%). We did not observe any mortality, graft failure, episodes of acute cellular or antibody-mediated rejection. One patient had clostridium difficile infection who was admitted for monitoring.

**Conclusion:** In those that require ongoing AL amyloid therapies following OHT, it may be safe to discontinue antimetabolite in efforts to minimize complications from over-immunosuppression without compromising risk of rejection. Personalized IST in this traditionally high-risk population should be considered.



(830)

**Physical Activity After Heart Transplantation: Characteristics, Motifs, Barriers, and Influence of COVID-19 Pandemic**

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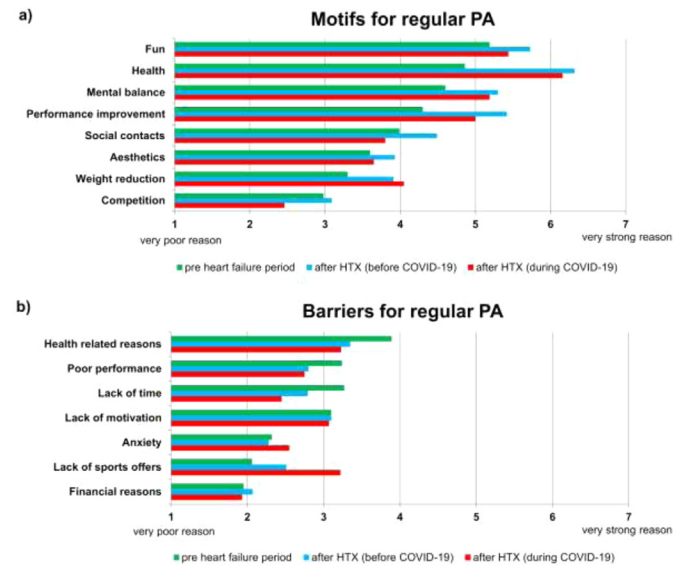
**Purpose:** After heart transplantation (HTX), regular physical activity (PA) is crucial to counteract transplant-related alterations and improve functional performance. Not much is known about the long-term implementation of PA and potential problems that may occur. The potential influence of COVID-19 pandemic is unknown.

**Methods:** Online questionnaire survey: 158 patients (53±14 yrs, 65% male, 8±7 yrs after HTX) were included. Recruitment was carried out via HTX outpatient departments, transplant sport associations, self-aid groups and social media. The questionnaire included 77 to 138 items divided into 6 categories and 3 time points (pre heart failure, after HTX before COVID-19, after HTX during COVID-19). The survey was approved by the local ethics committee.

**Results:** 88% reported regular PA after HTX (before COVID-19) and 75% had taken up PA within the first year. Patients stated higher level of PA after HTX, compared to the pre heart failure period (p<0.05). Patients who completed cardiac rehabilitation (70%), started leisure-time PA significantly earlier (p<0.05) and with higher frequency (p<0.05). Figure 1 shows the most important motifs/barriers for regular PA and changes over the reported period. Satisfaction with sports facilities was moderate and 39% complained about the need for improvement (e.g. exercise education). 61% performed exercise training without a professional supervision.

Exercise monitoring was mostly done using heart rate respond (52%), but frequently no monitoring was used (32%). During COVID-19, patients were more dissatisfied with their level of regular PA (p<0.01) or physical condition (p<0.05) and emphasized the beneficial effect of PA on their mental balance.

**Conclusion:** After HTX, most patients try to integrate regular PA in their leisure-time behavior, but complain about a lack of detailed exercise education and appropriate sports facilities. Participation in a cardiac rehabilitation after HTX may have positive long-term impact on PA levels.



(831)

**Poke Not Prod: Improving Quality of Life Through Non-Invasive Rejection Surveillance for Heart Transplant Recipients**

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**Purpose:** Gene expression profiling (GEP) and donor-derived cell-free DNA (dd-cfDNA) provide effective non-invasive rejection surveillance for heart transplant (HT) recipients with a trend toward improved quality of life. During the COVID-19 pandemic, rejection monitoring and titration of medications in HT patients was difficult due to limited health-care resources for endomyocardial biopsy (EMBx). This is the first Canadian study to assess non-invasive rejection surveillance in improving patient satisfaction and reducing anxiety during HT rejection screening.

**Methods:** Adult HT recipients, at least 6 months post-transplant, were enrolled to have surveillance EMBx replaced by non-invasive rejection testing with GEP and dd-cfDNA. Patients with multiorgan transplant, dialysis, or high rejection risk (recent acute cellular rejection ≥ grade 2R, new graft dysfunction, or heart failure) were excluded. All patients completed the Medical Outcomes Study 12-item Short Form Health Survey (SF-12) and a patient satisfaction survey. Thematic analysis was performed for open-ended responses.

**Results:** Out of 90 patients screened, 31 had their routine EMBx replaced by non-invasive rejection testing. Based on test results, 89% of EMBx were safely eliminated. On the SF-12, participants had a median physical health score of 43 (40-53) and mental health score of 53 (46-58) out of 100. Patients' self-reported satisfaction was 90%. Median self-reported anxiety score prior to EMBx was 50 (10-71) versus 2.5 (0-7.5) out of 100 prior to GEP/dd-cfDNA. Four codes ("emotions" (pain, anxiety, fear), "time", "biopsy", "accuracy") were used to uncover two themes of "Superiority to Biopsy" and "Mental or Physical Stress". Patients described feeling much more satisfied and less emotionally distressed with the non-invasive