Methods: Retrospective chart review of all adult CF LVAD patients implanted in BC between March 2008 & June 2015. Patients were considered NA if the group consensus was that NA behaviours posed too great a risk to transplantation. Groups were divided into BTT & DT NA. 116 patients underwent CF VAD implantation and 10 patients became DT due to medical causes. These pts were excluded from the analysis. Groups were then divided into BTT (n=100) and DT NA (n=6).

Results: Reasons for NA were ongoing tobacco use post-LVAD (n=4), multiple missed appointments (n=4) and medication NA (n=3). All of the NA patients were men, although the numbers are too small to reach statistical significance. DT NA patients as expected had significantly longer duration of LVAD support (see Table 1).

One year survival between the two groups was not significantly different in the BTT vs. the DT NA groups at 84% vs. 100% respectively (Figure 1). Of the 6 patients, 2 died on VAD. 1 was explanted and is currently NYHA II and 3 continue to do well on LVAD support (all NYHA I-II).

Conclusion: Although numbers are small, these data indicate the need for further examination of this group of patients. Currently, our program is funded only for BTT patients, however given the excellent long-term survival in DT NA patients, further analysis needs to occur to determine if there may be room to expand the program to DT in carefully selected patients who may not meet the rigorous requirements of heart transplantation.

<table>
<thead>
<tr>
<th>Table 1: Demographics</th>
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<tr>
<td>BTT (n=100)</td>
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<tr>
<td>Mean age (+/-SD)</td>
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<tr>
<td>Number of males (%)</td>
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<td>Mean days of support (+/-SD)</td>
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A Review of Warfarin Management in Patients Supported with a Heartware HVAD Using Home INR Testing

Purpose: A review of warfarin management within our institute was undertaken to assess compliance over a period of time within target INR range of patients supported on Heartware HVADS.

Methods: Warfarin management within our institute is performed by our VAD team. Patients are provided with a Roche coagucheck XS INR tester which enables INR testing at home. Patients are instructed when to check their INR reading by our nurse specialist. Patients will either have to contact the nurse specialist or will be contacted by the nurse specialist as part of our telephone surveillance program. If they are to contact the nurse specialist they are asked to contact with their INR readings during a specific time. Within our institute we target an INR range of 2.6-3.5. Over a four week period we recorded the patients INR readings and compliance. We looked at the range the INR reading fell within and assessed how often the patients INR readings were within our target range. We recorded information related to compliance by reviewing how many patients took the instructed dose, and when they contacted the nurse.

Results: At the point of review we had a cohort of 46 patients. 5 of those were on Tinzaparin, 4 due to GI bleeding and 1 due to erratic INR. Over the 4 weeks 376 INR readings were scheduled. Out of those 376 readings 89% of patients gave INR readings and of those, 93% took the instructed dose. Of those INR readings that were obtained we found that 62.5% were within our target range of 2.6-3.5. Heartware recommend a target INR of 2-3 for the HVAD device, 75.8% were within this range. Of our cohort 4.1% of the readings were less than 2 requiring tinzaparin.

Conclusion: From reviewing the data we found that home testing allows us to keep our patients within our target range designated for the LVAD for a sufficient period of time. The home testing prevents the patient having to spend time in warfarin clinics and allows our VAD team to maintain greater control over the patients anti-coagulation. We have compared our data to the main warfarin clinic ran at our institute and found that our time spent within range was similar. In the warfarin clinic 67.9% of patients spent time within the target range of 2.5-3.5 and for the Heartware target range of 2-3 their time spent within range was 80%. On comparing this data you can see that home management of INR readings in this cohort of patients is comparable to that of a well-established warfarin clinic.

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Implementing a Change Package to Improve the Anti-Coagulation Management of Pediatric Patients on Ventricular Assist Devices
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Purpose: Ventricular assist devices (VADs) have decreased transplant waitlist mortality for children with end-stage heart failure. Best outcomes are challenged by thromboembolism and bleeding. Effective management of anti-coagulation, often with unfractionated heparin (UFH) infusions, is critical to minimize risk of adverse events and ensure proper function of the VAD. Safe anti-coagulation therapy with UFH requires therapeutic drug monitoring (TDM), which depends on timely and accurate interpretation of the laboratory values and the biological response. We sought to improve the process of titrating UFH anti-coagulation in pediatric VAD patients.

Methods: Interventions included standardizing the process for lab draws, role clarification, assigning an “anti-coagulation steward”, instantaneous text notification of laboratory results, and improved verbal communication and documentation. The principle outcome metrics were time to intervention after UFH measurement, variability in UFH levels and adverse event rates. Timely intervention was defined as response within 90 minutes of UFH lab draw.

Results: The study population consisted of 175 device days amongst 6 patients who had approximately 700 UFH levels. With implementation of the complete change package, the proportion of timely responses to UFH levels increased from 30 to 95% (figure) with a concomitant decrease in the variability of UFH levels, and an increased proportion of UFH levels in therapeutic range.

Conclusion: The implementation of a hep兼 monitoring change package decreased UFH level variation and increased the timely response to UFH levels for pediatric VAD patients. Standardization of hep兼 monitoring and decreasing unnecessary variation can decrease the adverse event risk in children on ventricular assist devices.