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HIGH PREVALENCE OF BLEEDING WITH CONTINUOUS FLOW DEVICES

ACC Poster Contributions
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Background: Bleeding is frequently reported with continuous flow left ventricular assist devices (LVAD) and may result from anticoagulation coupled with bleeding diathesis from high shear stress. Accordingly, the prevalence of coagulation abnormalities and bleeding events during device support and at transplant (HT) was evaluated.

Methods: A retrospective study in all HeartMate(HM)2 patients implanted between 2004-2009 was performed. Bleeding was defined as the need for transfusion > 7 days after device insertion. Transfusion at HT was compared to HM1 patients.

Results: 78 HM2 devices were implanted. Anticoagulation included Warfarin in 77%, Aspirin in 63%, and Dipyridamole in 66% of patients. None received Plavix. 44% of patients had bleeding episodes at 119±184 days post LVAD implantation with 50% experiencing an event within 2 months. Gastrointestinal bleeding was the most frequent event, (21/34 events). At the index event, INR averaged 1.7±0.5. The platelet count was 253.9±126.2x109/l. Von Willibrand (vW) multimers were measured in 24 patients, and high molecular weight multimers were reduced in all patients. 18 of 24 (75%) patients with low vW multimers had bleeding. 35 HM2 patients compared to 62 HM1 patients at HT had double the intraoperative transfusion requirements (PRBC 6.3±0.8 vs 3.8±0.5U, platelets 12.5±5.4 vs 8.6±6.4U, FFP 9.6±4.9 vs 4.9±3.6U and cryo 4.3±3.6 vs 2.2±3.5 U, $P<0.05$ for all).

Conclusions: Patients with HM2 had a high incidence of bleeding events during device support and at transplant. Bleeding occurred in patients with reduced vW multimers. Alterations in anticoagulation should be considered during device support and prior to surgery if vW multimers are reduced.