Introduction:
Perioperative management of a Jehovah Witness patient undergoing cardiac surgery presents a unique challenge, as their beliefs do not permit the use of allogeneic blood products. We present a case of cardiac transplantation in a Jehovah Witness with Adriamycin-induced cardiomyopathy in which biosynthetic factors were utilized to achieve hemostasis.

Case Presentation:
A 56 year old male with cardiomyopathy secondary to Adriamycin treatment in 2007, Non-Hodgkin Lymphoma B-cell previously treated with CHOP therapy, and history of abdominal surgery for GSW presented for heart transplantation at our institution. Preoperative workup revealed global hypokinesis and Ejection Fraction of 10% with hematocrit of 48. This patient refused blood products but accepted albumin, cellsaver, and biosynthetic factors.

The patient was induced after standard ASA monitors and arterial line were placed. A central venous catheter and transesophageal echocardiography probe was placed after intubation. Anesthesia was maintained with Sevoflurane and inotropic agents were used throughout the case. Tranexamic acid was bolused and infused throughout the case. Cardiopulmonary bypass lasted for 142 minutes. After bypass, the patient was given 1 mg of NovoSeven to help achieve hemostasis. The patient was also given 450 mL of CellSaver and 500 mL of 5% Albumin towards the conclusion of the case. The remainder of the intraoperative course remained uneventful. Postoperatively, the patient remained hemodynamically stable and was extubated on postoperative day 0. His postoperative course remained uneventful and he was discharged on postoperative day 6.

Discussion:
There are currently no extensive studies focused specifically on heart transplantation in Jehovah Witness patients; however, with a multidisciplinary team approach and attention to detail in the operative suite, a major cardiac procedure can be safely performed in Jehovah Witnesses. Implementation of hemostasis techniques during surgery, limitation of cardiopulmonary bypass duration, and utilization of biosynthetic factors such as NovoSeven allow for favorable circumstances and outcome.

Given our patient’s circumstances, we elected to administer NovoSeven to achieve hemostasis. NovoSeven or rFVIIa is FDA approved for the treatment of uncontrolled massive hemorrhage in patients with Hemophilia A, Hemophilia B or Acquired Hemophilia. There has also been recent research suggesting the role of rFVIIa in various settings such as massive hemorrhage in trauma patients or intractable bleeding after cardiac surgery.

This case is an example of the successful use of rFVIIa for a Jehovah Witness patient with intractable bleeding after heart transplantation. Overall, the patient’s religious beliefs and wishes were upheld without compromising patient well-being.

References:
3) Blood Transfus 2011;9:189-217
4) JCS 2012, 7:95
5) Texas Heart Institute Journal Volume 15, Number 3, 1988
6) Arch Surg—Vol 125, Nov 1990