Thrombotic events with use of recombinant activated factor VII in high-risk cardiac surgery

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INTRODUCTION

Bleeding complications are common during high-risk cardiac surgeries, which necessitate the use of pro-thrombotic agents such as recombinant activated factor VII (rFVIIa). However, large doses of rFVIIa can increase the risk of thrombotic events, such as stroke or venous thromboembolism.

OBJECTIVES

To investigate the adverse outcomes of patients receiving rFVIIa during cardiac surgery, particularly the primary endpoint of a thrombotic event.

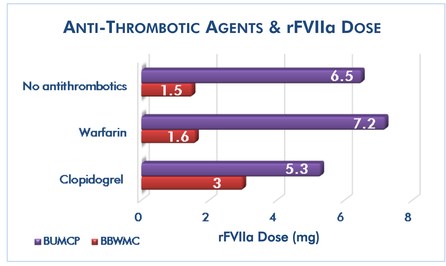
STUDY DESIGN

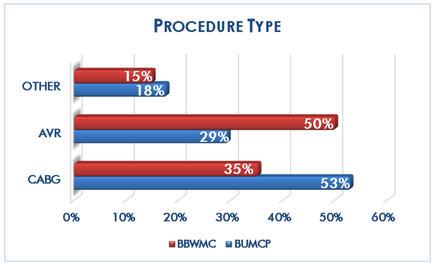
Retrospective cohort study.

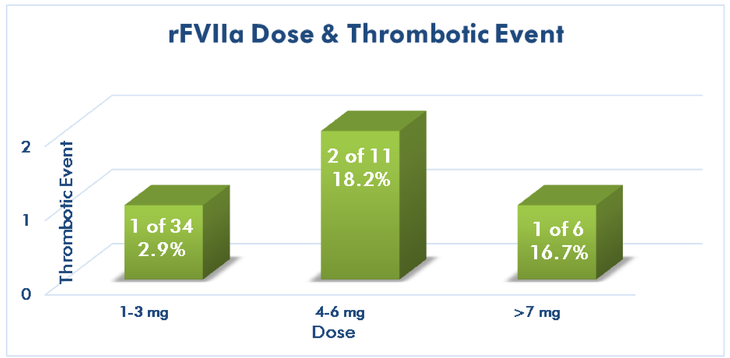
METHODS

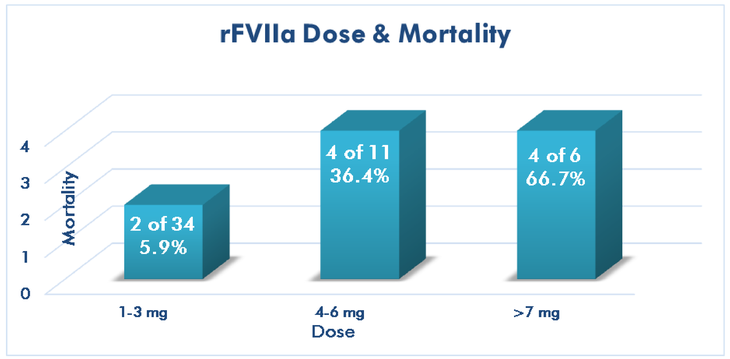
- Patients 18 years or older underwent cardiac surgery from July 2011 to August 2014 at Banner Boswell Medical Center (BBWMC) and Banner University Medical Center Phoenix (BUMCP) were included.
- Key exclusion criteria:
  - Patients admitted for Transcatheter Aortic Valve Replacement or Left Ventricular Assist Device implant.
- Main outcome measures
  - Thrombotic events
  - Mortality
  - Dose of rVIIa
  - Relationship between antithrombotic therapy prior to surgery and dose of rFVIIa

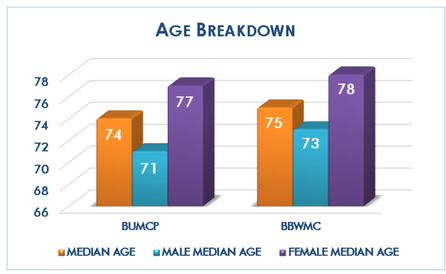
RESULTS

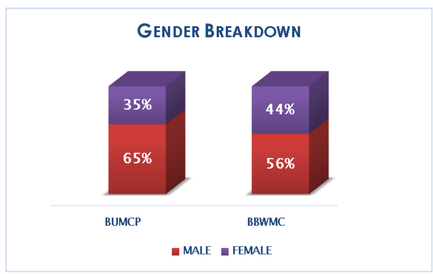












CONCLUSION

- The results of this study show an association between the dose of rFVIIa administered and the incident of thrombotic events in cardiac surgery patients. A total of 4 patients experienced a thrombotic event, and 3 of the events were in patients who received a dose > 4mg.
- The dose of rFVIIa and mortality rate are correlated. Although, this correlation may be attributed to other patient factors requiring a higher dosage, such as procedure type, age and patient overall health prior to the surgery.
- A relationship between the antithrombotic therapy and the dose of rFVIIa used cannot be established based on this data.

DISCUSSION

- The applicability of the data is limited due to the number of patients analyzed; therefore, a larger population should be studied in order to gain more knowledge on the relationship of thrombotic events and the dose of rFVIIa. This information may be utilized in order to understand the safe use of rFVIIa for postoperative bleeding in cardiac surgery patients.

DISCLAIMER

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