

CURRENT VENOUS THROMBOEMBOLISM PROPHYLAXIS PERI-CORONARY ARTERY BYPASS GRAFTING AT ST. THOMAS' HOSPITAL

Lee-Chun Chiang¹, Victoria Collings², Prof. Ian Bates³

1. MSc Student, Clinical Pharmacy, International Practice and Policy, UCL School of Pharmacy
2. Senior Cardiovascular & KCL Academic Link Pharmacist, Guy's and St Thomas' NHS Foundation Trust
3. Professor of Pharmacy Education, UCL School of Pharmacy



Introduction

- VTE can be highly associated with post-operative death and readmission after coronary artery bypass grafting (CABG) surgery
- CABG patients have multiple VTE risk factors especially in urgent patients. There is only a general VTE prophylaxis guideline followed by CABG patients at St. Thomas' Hospital

Aim and objectives

Aim: to audit the current practice of St. Thomas' applied VTE prophylaxis in patients receiving CABG

To identify and compare the demographics and risk factors of VTE in patients who receive elective and urgent CABG

To determine current VTE prophylaxis peri-CABG

To determine the compliance of VTE prophylaxis with current Trust guideline

To compare the effectiveness and safety of VTE prophylaxis between elective and urgent CABG patients during in-patient period

To assess the choice of VTE prophylaxis at St. Thomas' Hospital and available evidence.

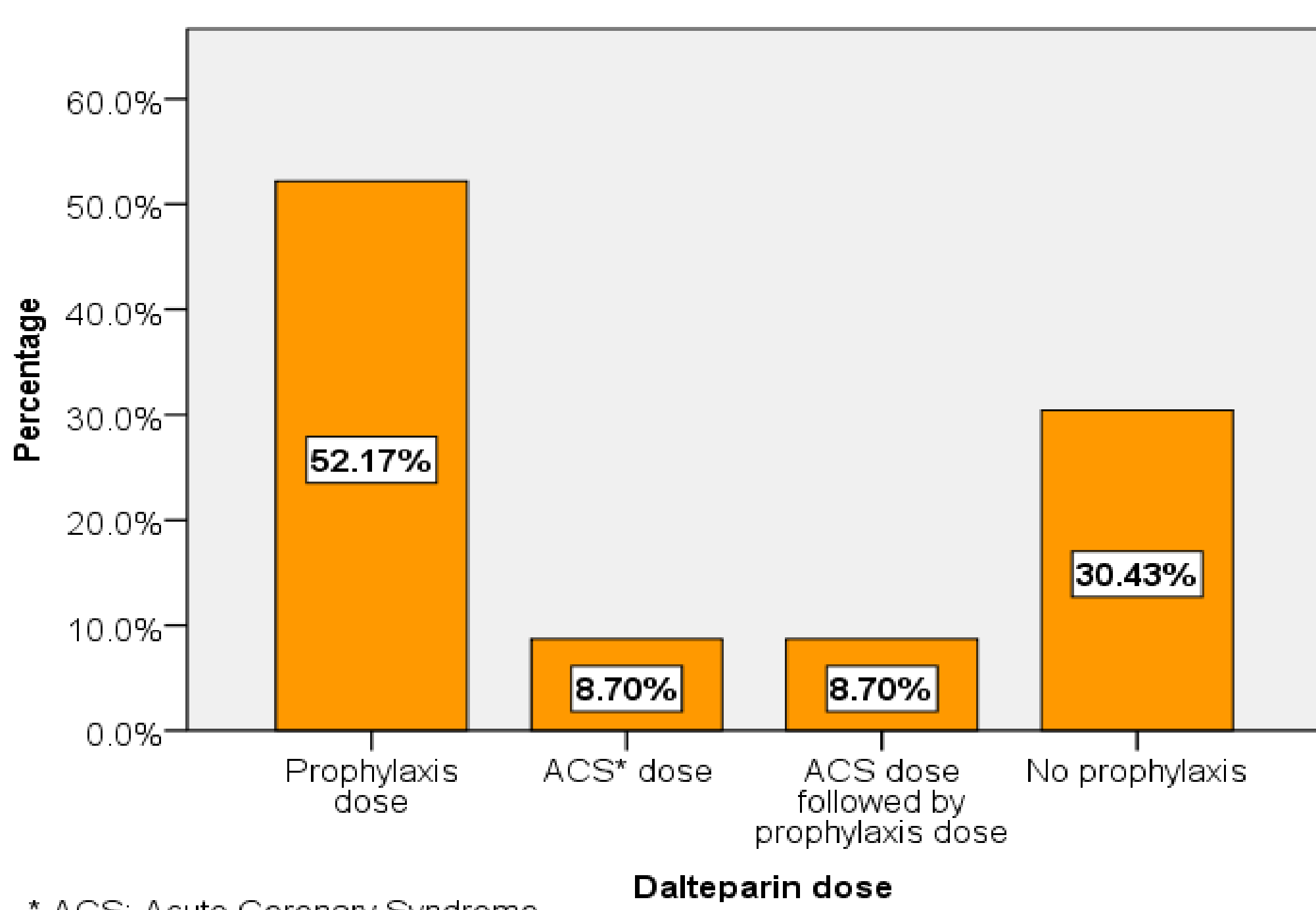
Methods

- A prospective observational design was applied from 9th May 2016 to 17th June 2016
- Inclusion criteria: CABG patients without additional mitral valve replacement/repair or mechanical aortic valve insertion
- Standard: anti-embolism stockings (AES) and dalteparin from admission to full mobilisation (give up to 12 hours before CABG)
- Outcome measures: ① demographics, ② prophylaxis patterns, ③ guideline compliance, ④ VTE rates and ⑤ bleeding incidences
- Data analysis: descriptive analysis, independent t-test, chi-square test and repeated measures analysis were applied (SPSS 22)

Results

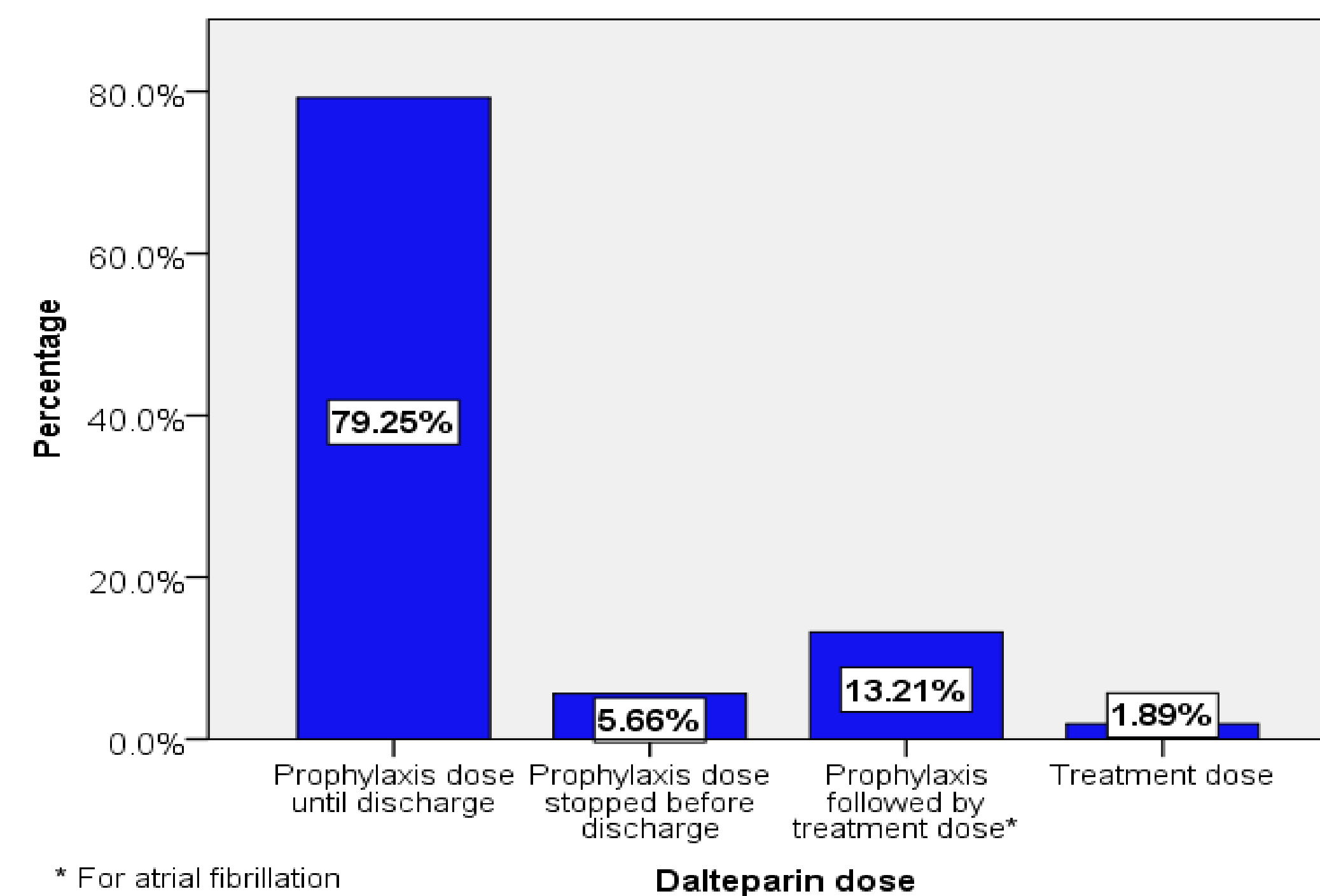
- 53 patients (urgent: 23, 44.4%; elective: 30, 56.6%): Mean age: 65.3±9.8; VTE risk: more recent MI in the urgent group (p<0.05)
- Pre CABG VTE prophylaxis regimens in the urgent group: (no prophylaxis in the elective group – pre-CABG period <12hrs)
 - 16 patients (69.57%) received dalteparin; 18 patients (78.26%) received an antiplatelet
- Post operation prophylaxis: dalteparin and dual antiplatelets in all the patients
- Compliance: no AES; 4 urgent patients (7.5%) omitted dalteparin pre-op; 3 patients (5.7%) stopped dalteparin before discharge
- Symptomatic VTE rate: 0%
- More moderate to severe universal definition of perioperative bleeding incidences in the urgent group (p=0.012). The changes of haemoglobin show significant difference between groups (p=0.035)

Pre operation anticoagulant regimens in urgent patients (n=23)



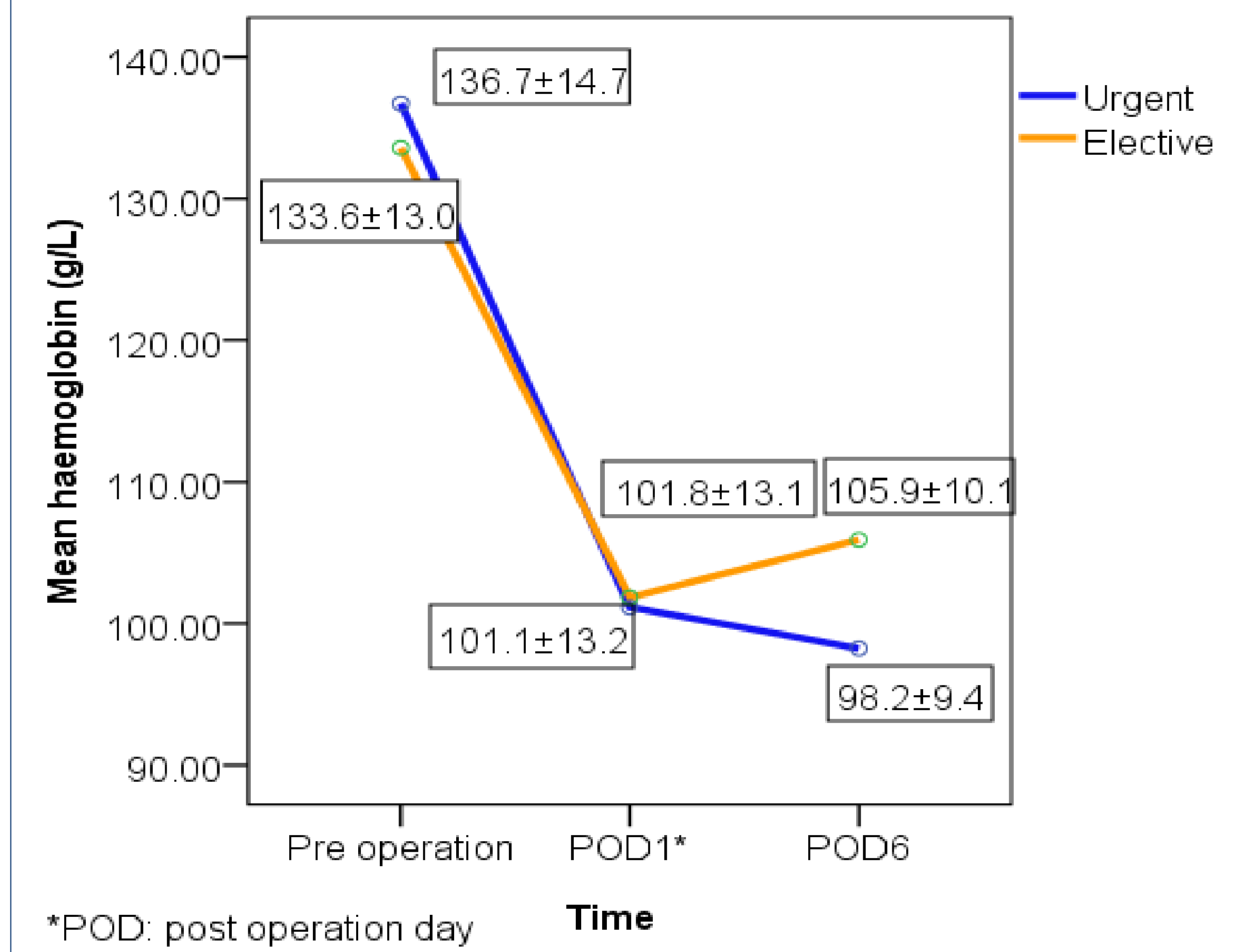
* ACS: Acute Coronary Syndrome

Post operation VTE prophylaxis regimens (n=53)



* For atrial fibrillation

Change of haemoglobin from pre op to POD6 (n=34)



*POD: post operation day

Discussion and conclusion

- Compliance: no AES- concern about saphenous vein harvest; lack of proper chemical prophylaxis- hospital and ward transfers
- Low symptomatic VTE rate – strict chemical prophylaxis with dalteparin and antiplatelet
 - Higher bleeding rate in the urgent group might because of non-stop antiplatelet usage before CABG. However, it can be reversed under proper management (non-significant mean haemoglobin and post operation length of stay between groups).
- VTE prophylaxis patterns are similar with the literature (Schwann et al., 2010). Mechanical prophylaxis can be considered as it showed benefits on reducing asymptomatic VTE rate (Ramos et al., 1996)

References

- Ramos, R., Salem, B.I., De Pawlikowski, M.P., Coordes, C., Eisenberg, S. and Leidenfrost, R. 1996. The efficacy of pneumatic compression stockings in the prevention of pulmonary embolism after cardiac surgery. *Chest*, 109(1), pp 82-85.
- Schwann, T. A., Kistler, L., Engoren, M. C. & Habib, R. H. 2010. Incidence and predictors of postoperative deep vein thrombosis in cardiac surgery in the era of aggressive thromboprophylaxis. *Ann Thorac Surg*, 90(3), pp 760-6; discussion 766-8

Acknowledgement

The author wish to acknowledge the contribution of the supervisors and course lecturers for their supports in the poster.