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Evaluation of Heparin-Induced Thrombocytopenia Antibody Laboratory Use and Anticoagulation Prescribing Patterns



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RP-247

Introduction

- Heparin-induced thrombocytopenia (HIT) is a rare adverse reaction
- Calculating a 4T score prior to ordering a heparin-PF4 immunoassay is recommended. For a score < 4, HIT probability is low and an assay is not advised¹
- If high suspicion of HIT (4T ≥ 4), an assay should be ordered, all heparin products discontinued, and a non-heparin anticoagulant initiated¹

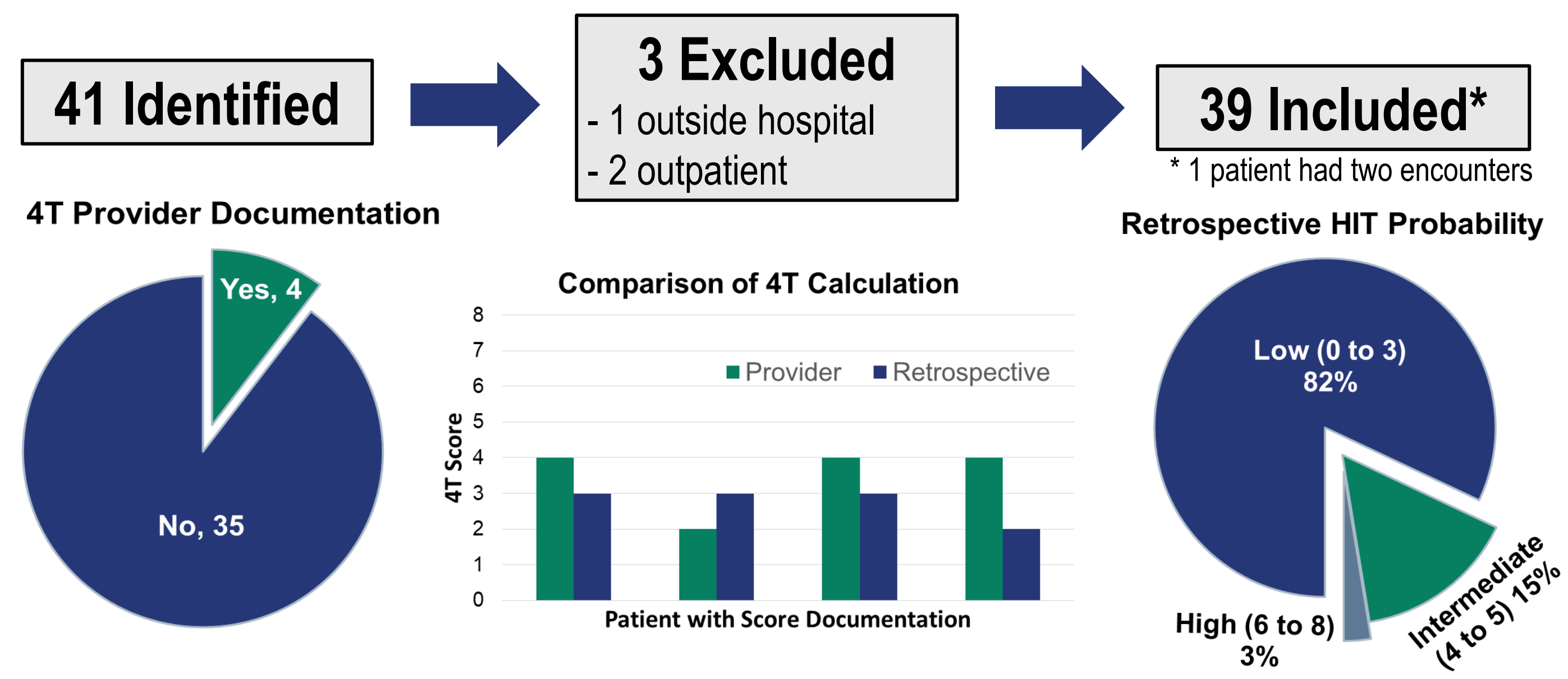
Purpose

- Determine if heparin immunoassay ordering was indicated according to retrospective 4T score
- Assess anticoagulation prescribing depending on the result of the assay
- Serve as a pre-group for a planned pre-verse post-HIT order set implementation analysis

Methods

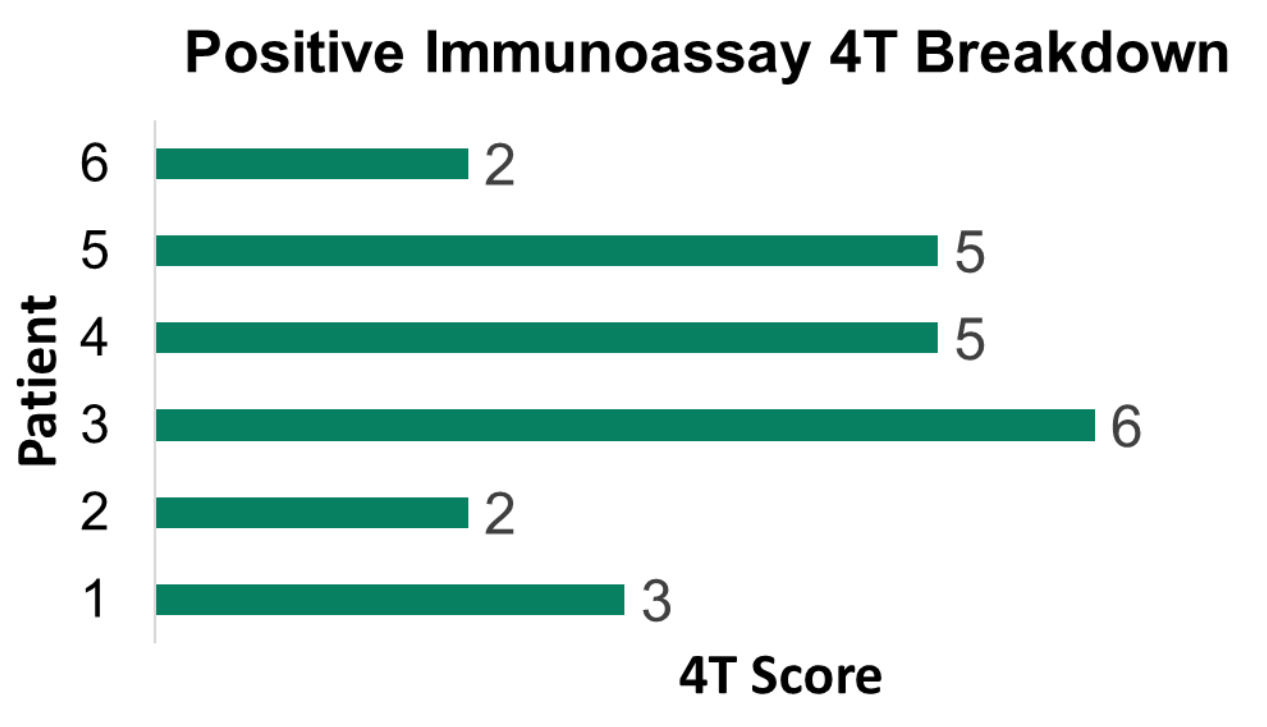
- IRB-approved, retrospective chart review of heparin-PF4 IgG immunoassay collected from 9/1/2019 to 2/29/2020
- 4T score retrospectively calculated
- Anticoagulation evaluated at time of and following immunoassay ordering

Results



Laboratory Evaluation	
Result of Heparin-PF4 IgG Immunoassay (+, -)	Positive – 6* Negative – 33
Optical Density of Positive Immunoassays	Intermediate – 4* High – 2

* Serotonin release assay was sent on 1 patient, result was negative



Anticoagulation Use	
Heparin at time of platelet drop (UFH, LMWH)	UFH – 32 LMWH – 5 None – 2
Heparin discontinued (Y/N)	Yes – 18 No – 17 N/A – 4
Argatroban initiated when assay sent (Y/N)	Yes – 4* No – 35
Argatroban continued if assay negative (Y/N)	Yes – 1 No – 1
Heparin restarted if assay negative (Y/N)	Yes – 5 No – 15 N/A – 13

* 2 were positive immunoassay patients
 UFH = Unfractionated Heparin, LMWH = Low Molecular Weight Heparin

Evaluation

- 4T scores were usually not documented prior to ordering heparin-PF4 IgG immunoassays
- Immunoassays were often ordered on patients with a low 4T probability of HIT
- Heparin products were frequently not discontinued (n=17) when HIT was suspected
- Argatroban was not consistently ordered when HIT was suspected
- Limitations include reliability of retrospective calculation of 4T score

Conclusion

- An order set may increase consistent prospective use of a 4T score and guide anticoagulation prescribing practices when HIT is suspected

Reference

1. Cuker A, Arepally GM, Chong BH et al. American Society of Hematology 2018 guidelines for management of venous thromboembolism: heparin-induced thrombocytopenia. *Blood Adv* 2018; 2(22):3360-3392.

Disclosure

Authors of this presentation disclose the following relationships with commercial interests related to the subject of this poster:
 Piper Swanson: nothing to disclose
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