Abstract

Background

Heparin-induced thrombocytopenia (HIT) is an uncommon but serious complication of patients exposed to heparin products. Although some values for heparin antibody optical densities (ODs) are generally accepted as diagnostic for HIT (OD >2 suggestive of HIT; OD < 0.5 non-suggestive of HIT), there is question regarding results in the "intermediate" OD group (0.5 – 2.0). Our single-center, retrospective study sought to evaluate the diagnosis and management of patients with HIT ODs of 0.5 – 2.0.

Methods

We queried the HERON database to identify patients with HIT ODs of 0.5 – 2.0. We collected patient demographic, diagnosis, lab and medication information in this query. We manually collected data including calculated 4T scores and corroborated diagnosis codes with documented information in the EMR (e.g. significance of bleeding diagnosis; serotonin release assay (SRA) results). We exported this data and analyzed it after the completion of manual data collection.

Results

We evaluated 303 patients who had HIT antibody ODs of 0.5 – 2.0. Patients were approximately 64 years of age (SD 15.3), 60% of patients were males and 67% of patients were hospitalized for medical reasons while 33% were hospitalized for surgical reasons. In patients where SRA results were available (n = 163), positive SRA rate was uncommon (21 of 163 SRAs collected/resulted). When calculating reliable 4T scores of patients with SRA results available (n = 133), we found that patients with low pre-test probability of HIT (4T score of ≤ 3) had a 96% negative predictive value.

Conclusions

In patients with suspected HIT, the 4T score may aid clinicians in evaluating patients with suspected HIT. If patients have low pre-test probability (e.g. 4T score ≤ 3), it may be reasonable to consider other causes of thrombocytopenia. Consultation with hematology experts is warranted in these complex cases.

Keyword: Heparin-Induced Thrombocytopenia; HIT; Optical Density