T2MR® Platelet Analysis Correlates With LTA and Reveals Unique Details of ADP-Mediated Platelet Activation in Whole Blood

**INTRODUCTION**

Recent reviews highlight the need for platelet function tests to establish reference methods, light transmission aggregometry (LTA) and 35 µL of citrated whole blood was added and mixed. Addition

**METHODS**

**T2MR Measurement of Hemostasis Parameters**

1. Platelet counts between donors with normal and impaired platelet function, defined by LTA.

**Blood Draw Methods**

- Whole blood aliquots were stored at −70 °C until used.

**T2MR Platelet Activity Measurements**

- The use of T2MR to detect and monitor platelet activity has been shown to be a rapid and accurate method for assessing platelet function.

**RESULTS**

- T2MR demonstrates partial recovery of platelet activity 29 hours after ingestion of ASA. Using LTA, partial recovery was first detected after 72 hours of AS ingestion. Fibrin mesh formation and platelet retraction, T2 values from the serum and blood clot separate rapidly, and the intensity values or relative moles of water increases 100%.

**CONCLUSIONS**

- The T2MR device detects a range of clinically valuable parameters to provide a rapid and accurate assessment of platelet function. Further, the T2MR device provides highly accurate results when compared to gold standard methods (100% PPA).

- These studies show that the T2MR device detects a range of clinically valuable parameters to provide a rapid and accurate assessment of platelet function. Further, the T2MR device provides highly accurate results when compared to gold standard methods (100% PPA). In previous studies, the T2MR device had predicted thrombotic events otherwise missed by established diagnostic tests.

- Advantages to T2MR devices include:
  1. Simplicity
  2. Small Blood Volume
  3. Robust and Faster Data for Hemostasis Testing.

- T2MR can identify novel biomarkers, as evidenced by the recent discovery of novel clot biology of ADP-effects seen in T2MR are more evenly dependent on both P2Y1 and PY12 signaling.

- These observations suggest that the ADP-effects seen in T2MR are more evenly dependent on both P2Y1 and PY12 signaling.

- Platelet activity could be measured by T2MR at platelet counts 100 k/µL and below, supporting the sensitivity of T2MR to detect thrombosis.

- T2MR detected "recovery" from aspirin earlier than LTA, suggesting more rapid detection to platelet function on T2MR.

- The results are consistent with high interest in novel diagnostics and laboratory tests using T2MR. Additional studies will investigate platelet function in T2MR in thrombosis.

**Acknowledgements**

These studies are supported by U01 HL125253 from the National Heart, Lung, and Blood Institute. The authors thank the staff of the Division of Hematology for providing clinical samples.

**References**