

**Young Fellow and Best Abstract Presentations**

**Title:** A retrospective review of Monoclonal antibody immobilization of the platelet antigens (MAIPA) to detect autoantibodies in immune thrombocytopenia patients and its clinical significance in local Hong Kong population

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**Background and objectives:** Immune thrombocytopenia (ITP) is an acquired disorder resulting from autoantibodies against platelet surface glycoproteins (GPs). It remains a diagnostic challenge, as it is a diagnosis of exclusion. This retrospective review aims to evaluate the clinical significance of detecting anti-platelet autoantibodies by using Monoclonal Antibody Immobilisation of the Platelet Antigens (MAIPA) in the diagnosis of ITP in Hong Kong. Furthermore, the initial and sustained platelet response to treatment were evaluated.

**Methods:** Adult patients (age 18 or above) were recruited retrospectively in this review. Patients with thrombocytopenia referred to Queen Mary Hospital laboratory to have MAIPA assay performed between 1st January 2016 to 31st December 2018 were included. The prevalence of autoantibodies against GPs using MAIPA test in this cohort was evaluated. The treatment response in patients with or without autoantibodies was analysed according to the treatment regimes. The primary outcome was the initial treatment response and the secondary outcome was the sustained treatment response at 12 months.

**Results:** Of the 108 enrolled patients, 51 patients (47%) had autoantibodies. Amongst those with autoantibodies, 78% of them had glycoprotein IIb/IIIa, 49% had GP 1b/IX and 8% had GP Ia/IIb. MAIPA assay was found to have a high specificity (85%) with a positive predicted value of 79%. Patients with autoantibodies had a significantly lower baseline median platelet count of  $18 \times 10^9/L$  (p value 0.035) compared with patients without autoantibodies ( $32 \times 10^9/L$ ). Patients with autoantibodies also had more bleeding symptoms on clinical presentation especially epistaxis (p value 0.021). Overall there was no significant difference between the two groups in terms of the initial response and sustained response across all treatment modalities.

**Conclusion:** This is a retrospective review of ITP patients with and without autoantibodies in the local Hong Kong population. ITP patients with autoantibodies appeared to have a significantly lower baseline platelet counts with more bleeding symptoms on clinical presentation. MAIPA assay plays a role to support the diagnosis of ITP. Overall, there was no difference in treatment response associated with the presence of autoantibodies.