NAME OF PROJECT:

- Standardization of flow cytometry for the assessment of inherited and acquired disorders of platelet number and function

Subcommittee. Platelet Physiology

- Person responsible (Chair / Principal Investigator): Paolo Gresele, co-PIs: A. Frelinger, J. Rivera
- Design: Literature review & International poll (RAND methodology)
- Aim/Objective/Rationale (Needs assessment / Reason):

  To provide guidelines for the use of the flow cytometric technique for the evaluation of platelet function in patients with possible inherited or acquired disorders of platelet number and function.

  Flow cytometry is increasingly used in the field of platelet research, particularly in the study of platelet function in inherited platelet disorders (IPDs). In contrast to all other methods used to evaluate platelet function, flow cytometry is able to assess platelet function in samples with low platelet counts, allowing investigation of platelet function in IPDs with thrombocytopenia, and in small volume samples, allowing investigation in children. However, wide variation exists in specific reagents, methods, and equipment used for flow cytometric analysis of platelet function making interpretation and comparison of results difficult.

  Lack of guidelines exist in this field and little evidence is available from prospective studies.

- Methodology (Data expected to collect, sample size and statistical analysis):
  
  o Exhaustive analysis of the available literature by an international expert panel.

  o If sufficient information is not available in the literature to develop guidelines for standardized analysis of platelet function by flow cytometry, the Rand Appropriateness Method will be used to survey experts. Conflicting opinions will be resolved using the “modified Delphi method”.

- Study population (Inclusion, exclusion, eligibility) (patient population; recruitment of participating institutions/physicians and subjects; minimum number needed; expected number):

- Expected timeline:
  
  o Project stage/set up: end 2016
  o Launch: January 2017
SSC Subcommittee Project/Collaborative Project

- Duration: 1yr
- Finalization/analysis: January-March 2018
- Reporting: SSC-2018

- Expected outcomes (i.e. publications):
  - Publication type: Guidance document

- Description of project set-up and management, needed infrastructure and resources (summary):

  The project will be co-chaired by Drs. Frelinger and Rivera with additional input and guidance from Dr. Gresele. Possible ISTH support in design of Rand surveys may be required. In addition, resolution of conflicting expert opinions using the modified Delphi process requires the expert panel meet for 1 – 2 days under the leadership of a moderator experienced in using the method. Each panelist receives an individualized document showing the distribution of all the experts’ first round ratings, together with his/her own specific ratings. During the meeting, panelists discuss the ratings, focusing on areas of disagreement, and are given the opportunity to modify the original recommendations. Support for such a meeting may also be needed.

- Possible references:


