METHODS FOR THE CONSERVATION AND SHIPMENT OF PLATELETS FOR PLATELET STUDIES

Platelet Physiology

- **Person responsible:** Chair: Paolo Gresele, PI: Marie Lordkipanidze

- **Design:** Systematic literature review & RAND - UCLA Appropriateness Method (1)

- **Aim/Objective/Rationale:**

  Platelet function testing, with applications in the diagnosis of bleeding disorders, granule secretion disorders, and monitoring of antiplatelet therapy, requires access to a fresh sample of blood. Indeed, platelet studies present a series of unique problems to any laboratory as they assess the dynamics of living cells, which are sensitive to sample handling and conservation (2). Moreover, in view of the specialist nature of these assays, samples regularly need to be transported to a specialized laboratory where detailed platelet investigations will be carried out. Previous surveys have highlighted important differences between laboratories in platelet function testing practices (3-6). These discrepancies highlight the need for an expert guidance document on optimal methods for the conservation and shipment of platelets for platelet studies (7-20).

  Therefore, the current project aims to provide guidelines for sample preparation, conservation and shipment to a specialist facility for (a) fresh blood samples intended for platelet function testing and (b) fixed blood samples intended for platelet marker assessment.

- **Methodology:**

  The lack of strong evidences in the field recommends using a RAND method based on anonymous expert opinion to reach a consensus.

  Phase 1: Comprehensive review of the literature to highlight areas of uncertainty or controversy surrounding blood sample handling, conservation and shipping to a specialized lab for platelet function testing;

  Phase 2: Structured online survey to develop a list of the hypothetical indications to be rated by the panel;

  Phase 3: Multidisciplinary expert panel nomination (7-15 members) and rating process according to RAND - UCLA Appropriateness Method.
SSC Subcommittee Project/Collaborative Project

- **Expected timeline:**
  - Project stage/set up: summer 2017
  - Launch: fall 2017, after comments from ISTH 2017 meeting
  - Duration: 2 years, ideally with a Delphi meeting at ISTH 2018 or by teleconferencing
  - Finalization/analysis: 2019
  - Reporting: ISTH 2019

- **Expected outcomes** (ie. publications):
  - Phase 1 deliverable: Review article on methods for conservation and shipment of platelets for laboratory studies
  - Phase 2 & 3 deliverable: SSC Official Communication
  - Phase 2 & 3 deliverable: SSC Guidance document

- **Description of project set/up and management, needed infrastructure and resources** (summary):
  The project will be chaired by Dr Marie Lordkipanidzé with additional input and guidance from Dr. Paolo Gresele. Survey management and statistical analysis will be performed by a statistician.

- **Possible references:**

  (2) Lordkipanidzé M. Platelet function tests. *Semin Thromb Hemost* 2016; 42; 258–267
  (4) Cattaneo M, Hayward CP, Moffat KA, Pugliano MT, Liu Y, Michelson AD. Results of a worldwide survey on the assessment of platelet function by light transmission aggregometry: a report from the platelet physiology subcommittee of the SSC of the ISTH. *J Thromb Haemost* 2009;7:1029


Koerner K. Platelet function after shipment of room temperature platelet concentrates. *Vox Sang* 1983;44:37-41


