NAME OF PROJECT:
International Survey of *H. pylori* testing and treatment in patients with immune thrombocytopenia (ITP)

Subcommittee:
Platelet immunology

Person responsible (Chair / Principal Investigator):
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Description Abstract
*Helicobacter pylori* (*H. pylori*) infection is recognized as a secondary cause of immune thrombocytopenia (ITP) for some patients. Clinical reports have described a resolution of ITP symptoms in up to 50% of chronic ITP patients following treatment of *H. pylori* infection, which generally consists of 7 – 14 days of combination antibiotics and a proton pump inhibitor.\(^1\)\(^,\)\(^2\) However, rates of platelet count improvement following *H. pylori* eradication vary widely across geographic regions and appear to be more common in certain countries such as Japan and Italy.\(^3\) In East Asia, *H. pylori* strains are more likely to express the cytotoxic-associated gene A (CagA), a virulence factor that is associated with an increased risk for peptic ulcer disease and gastric carcinoma, and more often associated with ITP.

Certain expert groups have recommended universal screening and eradication for *H. pylori* in patients with ITP.\(^4\) Other groups, including guidelines published by the American Society of Hematology have not been settled on this issue.\(^5\) Advantages of universal screening are the ability to identify patients with a treatable form of ITP, implementation of a treatment that is relatively simple, and other benefits of *H. pylori* eradication including a lowered incidence of gastric complications. Disadvantages of universal screening are low yield, the potential for false positive results, overuse of antibiotics, and uncertain cost-benefit balance. Patterns of practice with respect to screening, testing and treatment of *H. pylori* in patients with ITP are variable.\(^1\)\(^,\)\(^2\) A description of the variability in practices across global regions can inform future studies, focus treatment initiatives and contextualize recommendations for patients with ITP.

Design and methodology (Data expected to collect, sample size and statistical analysis):

*Study design:*
Web-based survey consisting of scenario-type and short answer questions. A link to the survey will be delivered by email and responses will be tracked anonymously. The survey will be designed using REDCap (Research Electronic Data Capture), a secure web-based application
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designed to support data capture for research. REDCap is designed to comply with HIPAA regulations. The project will be hosted on the SSC REDCap platform. A standard definitions document will be created to accurately define each of the variables to ensure consistency of the data. We will use the following methods for survey design: item generation, to gather all relevant issues related to \textit{H. pylori} testing and treatment; item reduction, to focus the survey on the relevant items related to our study objectives; questionnaire validation through vetting by select experts from the Platelet Immunology and Platelet Physiology Scientific Subcommittees; and pilot testing with a small group of respondents.

\textit{Data expected to collect}: 
We will collect demographic information from respondents including geographic location of practice; age; sex; years in practice; practice type (academic/ community practice). We will use scenario-based questions to elicit data on whether the respondent screens all/ some/ none of ITP patients for \textit{H. pylori} infection; what screening and confirmatory tests are used; what treatment strategies are used; whether follow up testing is performed; and how often a platelet count response is observed (see appendix for examples of scenario questions). A section for comments from respondents (free text) will be included.

\textit{Sample size}: 
We will target 140 respondents who are practicing hematologists or hematologist/ oncologists, representing distinct geographical regions globally to provide a representative view of practice patterns internationally. To achieve this goal, we will implement an aggressive sampling strategy targeting a survey response rate of at least 70%. The strategy consists of identifying 20 regional leads, each representing a unique geographic location. Each regional lead will be responsible for distributing and collecting completed surveys from at least 10 respondents in their region. We will track all respondents centrally using established resources at the McMaster Centre for Transfusion Research (Dr. Arnold, Director). Electronic reminders will be sent every 2 weeks. Response rates from each region will be displayed to all regional leads every month. Responses will be anonymous and confidential.

\textit{Statistical analysis}: 
Descriptive analyses will be used to summarize the data. Advanced survey software such as Tableau shall be used for summary statistics, descriptive statistics, and significance testing.\

\textit{Study population (Inclusion, exclusion, eligibility) (patient population; recruitment of participating institutions/physicians and subjects; minimum number needed; expected number)}: 
The target audience for this survey is practicing hematologists who treat patients with ITP, including adults and children. We will ensure a balance between academic and community practitioners. We will ensure a broad geographic representation by identifying regional leads, which can only achieved through ISTH membership and SSC subcommittees. We have already obtained a commitment from 10 regional leads, and our goal is to recruit 20 regional leads total. Regional leads include: Yoshiaki Tomiyama (Japan), Phil Choi (Australia), François Mullier (Belgium), Tamam Bakchoul (Germany), Bertrand Godeau (France), Francesco Rodeghiero
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(Italy), Nichola Cooper (UK), Prakash Vishnu (USA1), Terry Gernsheimer (USA2), Donald Arnold (Canada).

Expected timeline:
- Project stage/set up: 4 months (January 2018 – April 2018)
- Launch: May 2018, to coincide with Dublin SSC meeting (advertising, recruitment, etc)
- Survey duration: 4 months (June 2018 – September 2018)
- Finalization/analysis: 2 months (October 2018 – November 2018)
- Reporting: December 2018

Expected outcomes (ie. publications):
- Presentation of the data at Scientific and Standardization Committee (SSC) meeting of the ISTH; presentation of results at patient groups (e.g. platelet disorders support association; Dr. Arnold, medical advisor); publication of the survey results.

Publication type (SSC Communication, Guidance document or original article):
- SSC Communication

Description of project set up and management, needed infrastructure and resources (summary):
- Planning, organizing and monitoring:
  1. Define the project outcomes: To describe patterns of practice and variability in practice across geographic regions regarding screening, testing and treatment of H. pylori in patients with ITP.
  2. Stakeholders: Clinical hematologists, hematologist/oncologists, ITP community, patients, patient support groups.
  3. Activities that have to be performed to complete the project: Survey development (including validation and pilot testing), central research ethics board application and approval, survey administration and tracking, regular reporting of survey response rates (newsletter), data analysis, interpretation, presentation and publication. Research activities and survey administration will be done using REDCap and coordinated through the McMaster Centre for Transfusion Research, McMaster University.
  4. Dates on which each project activity will start and end: January 2018 to December 2018
  5. Budgets for all required project resources (see attached)
  6. Project risks: We do not anticipate any risks to respondents. Results will be confidential.
  7. Study chair (Dr. Donald M. Arnold) and co-principal investigator (Dr. Prakash Vishnu) will be responsible of keeping track of study progress.

References:

