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TS093 Plasma Supply Management

Conclusions and recommendations from the TS093 extended working group meeting of September 2016

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Distribution

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This document, about the conclusions and recommendations emerging from the meeting of the TS093 extended working group held on 20 September 2016 at the EDQM premises, was prepared and endorsed by the members of the TS093 core working group.

It was subsequently approved by The European Committee (Partial Agreement) on Blood Transfusion (CD-P-TS) and released for publication on the EDQM webpage.

List of participants of the meeting held on 20th September 2016

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TS093 Extended working group including manufacturers and associations:

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Invited participants:

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Conclusions

- There is a need to regain a better balance in the collection of plasma for fractionation (PfF) between Europe and the US.
- There is currently significant variation in the apheresis collection protocols, collection frequencies, plasma collection limits and protocols for monitoring donor health between countries, even within Europe.
- A move towards harmonisation of practices of collection volumes and frequencies would be beneficial.
- The evidence underpinning the current CoE standards is scant and clearly heavily influenced by the precautionary principle.
- Whilst some evidence exists on short term and longer term health impacts in low and moderate intensity plasmapheresis programs, evidence from high intensity plasmapheresis programs is very limited. Scrutiny of the evidence background for the current practices in the blood and plasma establishments and closure of current evidence gaps is required.
- All methods of estimating the total blood volume have limitations, with over and under collections at the low and high weight extremes. Use of plasma nomograms to estimate the total blood volume can increase complexity and the risk of error. Many donors, particularly larger males, have their collection volume limited by the maximum donation plasma volume limit before they can reach a collection based on estimated total blood volume.
- Maximal volumes, maximal frequencies and donation intervals could possibly be replaced with individualization collection patterns based on body weight (BW)/body mass index (BMI) and monitored with IgG levels in the donor and adverse reactions (AR) and events (AE).
    - The collection volume including citrate could be linked to the body weight and if necessary corrected for the BMI. The minimal weight should preferably be 55 kg. The volumes to be collected could be: 650 mL for BW 55-59 kg, 750 mL for 60-79 kg and 850 mL from 80 kg and upwards.
    - The frequency of donations could be determined on the IgG-levels in samples of the bag if measured every 5th donation and the frequencies 1x/2 week (IgG between 6-8 g/L), 1x/1 week (IgG between 8-10 g/L) or 2x/1 week (IgG >10 g/L) could be allowed depending on IgG in the plasma bag. This has the dual benefit of allowing earlier detection of a significant reduction in the donor's IgG level as well as supporting product quality. At predetermined low IgG levels the monitoring should be performed at every donation.
    - The lowest level of IgG allowable in a donor was a matter of discussion and no consensus could be reached. It was noted that normal ranges are usually based on two standard deviations and for this reason there will be a small group of normal donors with levels outside the normal range. A clinical diagnosis of hypogammaglobulinaemia requires consideration of both the IgG value as well as a history of recurrent infections. The donor questionnaire is an important tool for evaluating a donor's ongoing health. Determination of a lower IgG limit in the donor and in the collection bag is however important.

- A number of factors affect whether or not a donor faints; including donor attributes (gender, age, total blood volume, donation experience), preparation for donation, collection centre factors, collection protocol and what the donor does afterwards. For this reason every donor is different and not all donors will be able to tolerate the same collection volume. It is impossible to prevent pre-faints and faints in all donors. It is therefore important for Blood Establishments to have in place a range of measures to reduce the risk of donor harm.
- Information and education of the donor is essential. Post-donation supervision is preferably at least 30 min. Preventing AR is essential to retain donors.
- Some collection protocols include the administration of normal saline. The value of administering normal saline was questioned because it rapidly redistributes within the interstitial space. Australian data was presented that did show a small benefit on the rate of vasovagal reactions. It was agreed that any benefit of saline compensation is likely only to be seen in a small subset of donors. End-donation saline minimises red cell loss. Mid-donation saline dilutes the IgG concentration of the plasma collected by apheresis.
- There is no uniform system for collecting and comparing data on AR and AE. Medical AR are occurring in the range of 10-30/10 000 donations. The difference will be influenced not only by the collection equipment and procedure but also how comprehensively the AR and AE are identified. A uniform system is needed to compare rates and to develop strategies for taking better care of donors.
- The loss of erythrocytes has been recognised and different strategies are available to counteract this: rinsing the apheresis set and returning the erythrocytes including some saline at the end, taking plasma samples from the bag/bottle and monitoring iron reserves.
- Available equipment differs in many respects and the differences appears to be tied to differences in AR during plasmapheresis
- The diversity of contracts for PfF in Europe may hamper increased collection of plasma.
  The differences in VUD vs compensated and paid donations need to be resolved. It is not the specific scope of TS093 since other working groups are tackling this issue.

Recommendations

- A scientific meeting on plasma supply management needs to be arranged by EDQM with the goal to collect evidence based data to support the revision of the text of the recommendations to be published in the 20th edition of the Guide concerning donor selection, donor protection, donor management and plasmapheresis in order to collect plasma for fractionation
  - The scientific committee needs to be composed of the experts responsible for the relevant chapters of the Guide and members of the current WG TS093
  - DH-BIO should be asked to discuss VUD and compensation in the context of the Oviedo Convention
  - An immunologist should discuss IgG levels in otherwise healthy persons, preferably as a representative of an immunological society.

- All organizations (PPTA/IPFA/EBA/EPA) should be invited to describe their donor panels: number, frequencies of donation, length of active careers by gender and age, and turn-over rate of the donor panel
- Equipment manufacturers should be invited for discussion of differences and difficulties
- An endocrinologist/hematologist should be invited to discuss iron deposit supervision – precision, performance and price

- German regulators should be invited to discuss current and coming guidelines for plasmapheresis.