Guidelines for the Blood Transfusion Services

18.4: Patient testing

http://www.transfusionguidelines.org/red-book/chapter-18-platelet-immunology/18-4-patient-testing

18.4: Patient testing

18.4.1: HPA typing

Patients should be typed for HPA following the guidelines for donor HPA typing with the following exceptions:

- A provisional type can be issued on the basis of a genotype performed on one occasion. However, it is recommended that a second typing technique be used when quality exercises or routine practice have revealed technical problems when typing for particular polymorphisms. Typing of subsequent samples will allow a confirmed genotype to be reported.

- HPA typing of fetal amniocytes can be undertaken by molecular techniques using DNA isolated from non-cultured amniocytes and a provisional HPA genotype reported. The HPA genotype should be repeated on DNA extracted from cultured amniocytes and shown to be concordant with the first result.

- HPA typing from cell-free fetal DNA can also be applied, similar to that for blood group typing described in section 15.4.1. Appropriate validation of HPA typing using cell-free fetal DNA against existing techniques using amniocytes should be in place.

18.4.2: Investigation of HPA antibodies

Patients should be investigated for HPA antibodies following the guidelines for donor investigation with the following exceptions:

- Laboratories serving populations with non-Caucasoid patients are advised to include cells in their panels which will aid the detection and identification of additional clinically significant antibodies (e.g. HPA-4, Naka/GPIV). If the acquisition of GPIV negative cells is not possible, an alternative approach is to establish assays capable of identifying GPIV antibodies that are controlled by appropriate positive control sera.

- Laboratories providing diagnostic testing for Neonatal Alloimmune Thrombocytopenia (NAITP) should include HPA typing of the parents and affected baby(ies). This testing will help identify any potential HPA incompatibilities and can be used to direct antibody screening if the father and baby both have a low frequency HPA that is absent in the mother. Laboratories are advised to investigate cases with a clinical diagnosis suggestive of NAITP and with a negative screen for common HPA antibodies , for antibodies against low-frequency or ‘private’ antigens. An effective approach is to use platelets from the child’s father as an additional panel cell (paternal platelets should be HPA typed as a ‘patient sample’). Alternatively, laboratories may refer such cases to a reference laboratory. In the event of a negative antibody screen in a case where NAITP is suspected and there is a potential HPA incompatibility between maternal and baby HPA types, laboratories are advised to repeat the

antibody investigation 1 month after delivery.

- Laboratories providing diagnostic testing for platelet refractoriness should follow the algorithm for laboratory investigations of platelet refractoriness in Figure 16.1.

A patient with HPA antibodies should receive an HPA antibody card and, wherever possible, an information leaflet. However, before an HPA antibody card and information leaflet is issued, the patient should be typed and found negative for that antigen.