Deteksi salah satu antibodi trombosit anti-HPA-3 pada neonatus dengan trombositopenia = Detection one of platelet antibody anti-HPA-3 in neonates with thrombocytopenia.

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Abstrak

Latar Belakang: Inkompatibilitas human platelet antigen (HPA) fetomaternal terjadi karena keberadaan antigen pada membran trombosit yang diekspresikan oleh fetus, namun maternal tidak mengekspresikan antigen tersebut. Human platelet antigen yang tidak serasi antara fetus dan maternal dapat memicu respon imun pada masa kehamilan, dan menghasilkan aloantibodi anti-trombosit yang dapat menghancurkan trombosit fetus sehingga mengakibatkan terjadinya trombositopenia pada fetus dan neonatus yang dikenal sebagai fetal/ neonatal alloimmune thrombocytopenia (FNAIT). Deteksi HPA belum dilakukan di Indonesia, sehingga tidak diketahui antigen yang terdapat pada trombosit. Hal ini memungkinkan terjadinya kasus FNAIT dengan salah satu tanda yang dapat dikenali melalui gejala klinis pada neonatus yaitu neonatus mengalami trombositopenia.
Tujuan: Mengetahui penyebab imun terjadinya trombositopenia pada neonatus sebagai salah satu upaya dalam memberikan tata laksana yang tepat dan optimal.
Metode: Penelitian ini merupakan penelitian deskriptif observasional dengan desain penelitian potong lintang. Subyek pada penelitian ini adalah neonatus dengan trombositopenia sesuai kriteria penelitian. Sampel yang terkumpul dilakukan skrining dan hasil skrining yang menunjukkan keberadaan antibodi trombosit, kemudian dilakukan identifikasi antibodi anti-HPA-3.
Hasil dan Diskusi: Hasil skrining pada 30 sampel didapatkan 3 neonatus positif antibodi trombosit, 2 borderline dan 25 negatif antibodi trombosit. Identifikasi antibodi anti-HPA-3 dilakukan pada lima sampel, menunjukkan ke lima sampel negatif terhadap antibodi anti-HPA-3. Skrining antibodi juga dilakukan pada 5 ibu neonatus yang terdeteksi antibodi trombosit dan ke lima nya negatif antibodi trombosit. Terdapat beberapa kemungkinan hasil negatif pada identifikasi antibodi anti-HPA, diantaranya antibodi anti-HPA yang spesifik terhadap glikoprotein lain di membran trombosit atau spesifik HPA lain. Diperlukan penelitian lebih lanjut dalam pembuktian kemungkinan tersebut. Simpulan: Berdasarkan hasil skrining ditemukan lima sampel terdapat antibodi anti-trombosit pada neonatus dengan trombositopenia, namun setelah dilakukan identifikasi pada lima sampel tidak satupun ditemukan antibodi anti-HPA-3. Hasil skrining kelima ibu negatif antibodi anti-trombosit, menunjukkan antibodi trombosit pada neonatus dengan trombositopenia bukan aloantibodi yang berasal dari ibu.
.....Background: Incompatibility human platelet antigen (HPA) fetomaternal occurs due to the presence of antigens on the platelet membrane expressed by the fetus, but maternal does not express these antigens. Human platelet antigen that is mismatched between the fetus and the maternal can trigger an immune response during pregnancy and produce anti-platelet alloantibodies that can destroy fetal platelets resulting in thrombocytopenia in the fetus and neonate, known as fetal/neonatal alloimmune thrombocytopenia (FNAIT). Human platelet antigen detection has not been carried out in Indonesia, so there is no known antigen on the platelets. This allows the occurrence of FNAIT cases with one of the signs that can be recognized through clinical symptoms in neonates, namely neonates experiencing thrombocytopenia. Aim:

Knowing the causes of immunity to neonatal thrombocytopenia is one of the efforts to provide proper and optimal management.
Methods: This research is descriptive observational study with a cross sectional design. The subject in this study were neonates with thrombocytopenia according to the study criteria. The collected sample is screened for the presence of platelet antibodies, then identification of anti-HPA-3 antibodies.
Result: Screening in 30 samples showed that 3 neonates were positive for platelet antibodies, 2 borderline and 25 were negative for platelet antibodies. Anti-HPA-3 antibody identification was performed in five samples, indicating that all five samples were negative for anti-HPA-3 antibodies. There are several possible negative results on the identification of anti-HPA-3 antibodies, including anti-HPA antibodies that are specific to other glycoproteins on the platelet membrane or the present of platelet antibodies due to specific to other HPA. Further research is needed to prove this possibility.
Conclution: Based on the screening result, five samples were found to have platelet antibodies in neonates with thrombocytopenia, after identification none of them were found to be specific anti-HPA-3 antibodies. Screening result of five maternal were negative platelet antibodies, it means platelet antibodies in neonates with thrombocytopenia are not alloantibodies of maternal origin.