Immune tolerance induction in the treatment of pediatric hemophilia A with inhibitor

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Inhibitor formation is one of the primary complications in the treatment of hemophilia A. Immune Tolerance Induction (ITI) has been used to eliminate inhibitor. This retrospective study described pediatrics patients who had received ITI therapy at the National Blood Centre Kuala Lumpur (NBCKL). This study is undertaken by reviewing the files of patients diagnosed as hemophilia A with inhibitors underwent ITI therapy at the NBCKL from 2002 to June 2016. ITI therapy was given initially 50-100 IU/kg/d and the dose was reduced based on the inhibitor titer and FVII recovery level. The successful outcome was defined as negative titer inhibitors and FVIII level were normalized. Twelve (66.6%) patients out of 18 from this study successfully eliminate inhibitors. This study also showed statistically significant association with the historical peak inhibitor before start ITI (p=0.015), peak of inhibitor during ITI (p=0.018), inhibitor titer before ITI (p=0.036), inhibitor at the start of ITI (p=0.011) and the duration between inhibitor detection and the start of ITI (p=0.046) with the final outcome of ITI therapy. This study has demonstrated that ITI therapy can be an effective treatment as inhibitor eliminator. The successful ITI factors includes the history of low inhibitor titer peak prior to therapy and peak during ITI (<200 BU/ml), low inhibitor titer before and at start of ITI (<10 BU/ml). The shorter duration of starting ITI therapy after inhibitor detection could influence the ITI outcome with higher success rate.

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