IPEX syndrome: The first reported case in Malaysia

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ABSTRACT

Introduction: IPEX (immune dysregulation, polyendocrinopathy, enteropathy, X-linked) syndrome is a rare PID with an incidence of 1:1.6 million people. Herein, we report the first confirmed case of IPEX syndrome in Malaysia. **Case Report:** A 7-month-old Malay male infant, the 3rd born to non-consanguineous parents, presented at 3 months old with chronic diarrhoea (Bristol 7), poor weight gain, hypokalaemia, hypoglycaemia and vitiligo-like rashes over his body. On examination, he was hypotonic and cachexic. He had hypopigmentation over scalp, face, trunk and limbs and hepatomegaly. He had no eczema, enlarged spleen or lymph nodes or respiratory and cardiovascular abnormalities. Colonoscopy and OGDS revealed post-enteritis syndrome with CMV colitis, (severe infiltration and inflammation of the stomach lamina, duodenum, sigmoid and rectum with CMV inclusion bodies). Skin hypopigmentation was likely atrophic vitiligo secondary to CMV infection. He was treated with IV ganciclovir and total parenteral nutrition, despite that his enteropathy did not improve. Initial workup for Omenn syndrome was not suggestive (no erythroderma, normal naïve T cells and eosinophils 0%). Serum IgG, IgA and IgM were normal. Total T, CD4+, CD8+ and NK cells were normal for age. He had low B cells 245 x 10^6/L (normal 500-1500x106/L), high IgE >5000 IU/L, raised inflammatory markers, high ESR >120 and vitamin B12 (1067pmol/L), hyperleukocytosis, thrombocytopaenia and subclinical hypothyroidism. Taken together, all these are suggestive of immune dysregulation. There was decreased percentage of FOXP3+ Treg (CD4+CD25+FOXP3+) cells by flow cytometry. Genetic testing confirmed a pathogenic variant of FOXP3 gene c.2T>A (p. Met1). He was started on rapamycin and corticosteroid and is planned for a matched related donor haematopoietic stem cell transplant. **Discussion:** Despite our patient not having the classical dermatitis and polyendocrinopathy, the presence of colitis and immune dysregulation played an important role in helping to establish the diagnosis. Type 1diabetes in patients with IPEX may develop later in life. Early use of immunosuppressive therapy can significantly improve GI symptoms of IPEX, while awaiting transplant. Common side effects of rapamycin include aphthous stomatitis and hypertriglyceridemia. Hence during initial treatment Rapamycin levels should be monitored every (1-2weekly), maintaining a trough of 8-15 ng/ml.