

## **Desensitization Protocol with anti CD20 in a child with secondary lymphoproliferative disease**

Post-Transplant Lymphoproliferative Disease (PTLD) in solid organ transplant has become one of the most common forms of lymph proliferation in childhood. More than 90% of pediatric PTLD are of B-cell origin, CD20 positive and associated an Epstein-Barr (EBV) infection.

The current standard of care is a combination of low dose chemotherapy with rituximab. However, new directions show us the application of cellular therapies with CD20 directed.

Rituximab was prescribed to a nine years old girl patient with monomorphic lymphoproliferative disease EBV positive, 8 month after heart transplantation. Epstein-Barr virus was positive in One hour after starting rituximab infusion (first choice of treatment), she had pruritus and sneezing and the drug was stopped. In a second attempt, she developed hives, chills and fever within forty minutes of infusion, even premedicated with antihistamines. During her third treatment, she developed anaphylaxis (dyspnea and hives) three minutes after starting the infusion and was treated with intramuscular adrenaline.

Results: The patient underwent skin tests with rituximab. The skin prick test performed with the straight concentration of the drug was negative. The intradermal test, with 1:10 dilution was positive (mean wheal diameter 10cm with a surrounding erythema) after five minutes of accomplishment. Therefore, a rapid 4 bags 16-steps desensitization protocol was performed using antihistamines, leukotriene modifiers and meperidine as premedication. No adverse reactions were seen and the four doses of rituximab required for treatment were achieved. The following viral load dosing was negative. Following stable but showed cardiac rejection leading to optimization of immunosuppressors. After 6 months of treatment which included an induction rituximab and dexamethasone, cyclophosphamide and methotrexate, the patient developed hoarseness, held biopsy that showed local recurrence.

We add Obinutuzumab to her schedule, and did desensitization again without problem and optimizing doses.

Desensitization protocols are important to provide essential drugs to patients with hypersensitivity reactions. To our knowledge, this is the first case of a child receiving the 16-step 4 bags desensitization protocol to treat such a clinical condition with Rituximab.