BACKGROUND: PTLD is the most common secondary tissue proliferation occurring in children after solid organ transplantation (SOT) and represents a large clinical and pathological spectrum of lymphoid proliferation, going from indolent polyclonal hyperplasia to aggressive lymphomas. 80% of PTLDs are B-cell in origin as well as associated with Epstein Barr virus (EBV); 10-15% are T-cell derived and about 1% derived of NK cells. Patients whose serology was negative for EBV pre-transplant and the degree of immunosuppression are the most relevant risk factors for developing the disease. The first treatment option includes diminishment of the immunosuppressive treatment used to prevent organ rejection, should it be possible. HYPOTHESIS: CD20/EBV positive PTLD may be controlled with the sole use of antibodies Anti-CD20.METHODS: 23 children post-SOT <18 years of age, all CD20/EBV positive (EBV *in situ* tumor hybridization), were treated at FMUSP, 3 being referred by HIAE. Strategy to treat PTLD included initial diminishment of immunosuppression (DI) (attempted in all children whose graft status allowed this reduction; 3/23 [13%] were unevaluable for response [precocious death]), use of Anti-CD20 and/or chemotherapy. 20/23 (83%) had initial either DI or no conditions for the dosage modification. None had imminent tumor-lysis syndrome. Disposal of anti-CD20 was dependent upon viable acquisition by the institution responsible for the treatment. RESULTS: This retrospective analysis involved the above mentioned 23 patients, all also having elevated levels of EBV copies (blood RT-PCR), diagnosed from March/1995 through August/2011. 20/23 (87%) children were evaluable for response. 15/20 (75%) were classified as having monomorphic disease and 5/20 (25%) as polymorphic disease. 1/20 (5%) had complete response with DI, 13/20 (65%) children were given exclusively Anti-CD20, 3/20 (15%) Anti-CD20 plus chemotherapy and 3/20 (15%) only chemotherapy, Anti-CD20 was given as follows: 375 mg/m^2/iv/weekly/X 4, without maintenance. All 20 children had undetectable copies of EBV (blood RT-PCR) after 4 weeks. The most remarkable result came from the comparison between children who received anti-CD20 and children who did not. For the first group, the 2-year overall survival was 81.45%, compared to 37.5% in the second group (p: 0.02). Recurrences were seen in 4/20 (20%) children, 3 of them having received only Anti-CD20 and 1 anti-CD20 plus chemotherapy (all were successful and exclusively re-exposed to Anti-CD20). No regular follow-up of EBV replication was done. No remarkable side effects were seen in this population. IgG levels were followed monthly after administration, until stable, and 12 / 20 (60%) who received either isolated or combined Anti-CD20 had transient levels of IgG <400 mg/l, being supplemented with iv immunoglobulins. The short duration of the Anti-CD20 treatment, its acceptable toxicity compared to other therapeutic alternatives, the possibility of its exclusive use, its effectiveness in aggressive histology disease and its possible association with other treatment alternatives in refractory disease, suggest its inclusion as initial drug for PTLD, should DI either fails or is not possible. Regular follow-up of EBV replication and measures for either preventing or treating its occurrence (Anti-CD20 being also a candidate for this purpose) is necessary for monitoring possible PTLD recurrences.