The treatment with Natalizumab of relapsing remitting ms in children: Yes or no? The Hellenic experience

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Objective: To elucide the efficacy and safety of Natalizumab in pediatric Multiple Sclerosis in all children from our cohort who were placed on Natalizumab per clinician's judgment. Methods: Clinical history and outcomes in 11 children with aggressive relapsing-remitting MS (2 boys, 9 girls), age of MS onset 13.3 years [range 10-16 years] were reviewed in our database. The first disease-modifying treatments for nine children were either IFN-β or Glatiramer Acetate. These children transitioned to Natalizumab after a year due to lack of clinical or radiological response. The 10th and 11th cases, were immediately started on Natalizumab due to a very aggressive disease presentation. Patients received between 5-40 monthly treatment infusions and were followed for between one and eight years. Results: With regards to treatment efficacy, the median annualized relapse rate (ARR) decreased from three to zero and disability measured through the EDSS scale decreased from a range between two and six to one after a year. There were no active lesions on MRI a year after treatment initiation. With regards to safety, there was no evidence of adverse events or hypersensitivity reactions. Conclusion: Multiple Sclerosis in not an adults privilege. Natalizumab is an effective and safe treatment for pediatric MS that is either of an aggressive nature or does not respond to common first line disease modifying therapies. Longer follow-up periods will allow better prediction of long-term safety and efficacy on degenerative disease features. There is less danger for PML in children. References: Chitnis T. Neurotherapeutics 2013 Jan;10(1):89-96 Waldman A., Brenda Banwell et al Lancet Neurol. 2014, 13 :936-48 Arnal-Gracia C. et al Eur. J. of Paed. Neurology 2013; 17:50-54 Ghezzi A. et al BMC Neurology 2015;15:174