Clinical experience with natalizumab in a Multiple Sclerosis Center in Puerto Rico

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Abstract

Natalizumab-a humanized monoclonal antibody- is a reversible α4 integrin receptor blocker approved for treatment of patients with RRMS (relapsing forms of Multiple Sclerosis). Natalizumab is approved as monotherapy in patients who have had an inadequate response to, or do not tolerate DMT therapy. Experience with Natalizumab in the Hispanic population is limited.In this study, we analyzed 306 Puerto Rican RRMS patients from San Juan MS Center in Puerto Rico.

Introduction and Purpose

Natalizumab was approved for the treatment of RRMS in 2004. It has been shown to decrease the occurrence of clinical relapses by 68% at 1 year and the risk of sustained progression of disability by 42-54% over 2 years in its phase III trial (AFFIRM) in RRMS. As a relative new drug, there are few studies on its tolerance, side effects and outcomes in patients under continuous treatment for over 2 years in a clinical base practice. This study is aimed to evaluate the safety and benefits of natalizumab in a private outpatient clinical setting and compare to the AFFIRM results. A retrospective review of 306 patients treated with Natalizumab was performed from August 2006 to April 2010. Demographic characteristics, previous disease modifying treatments (DMTs), number of infusions, adverse events, discontinuation causes, efficacy, and a patient perception of treatment questionnaire, were evaluated

The importance of this research become evident when we consider the following aspects: Puerto Rico (PR) is a Caribbean island, with an increased prevalence of MS. Puerto Ricans' ancestors include Caucasians, Africans and Amerindian groups. For the last hundred years PR has undergone a great social, economical and educational development. It is accepted that clinical manifestations and response to treatment may vary depending upon genetic, racial, and environmental factors. ***The objective of the study was to describe the clinical safety and efficacy of Natalizumab in a cohort of Hispanic MS patients in San Juan MS Center of Puerto Rico.***

Methods

A retrospective chart review of patients treated with Natalizumab from August 2006 to April 2010 was performed that included demographic characteristics, previous disease modifying treatments (DMTs), number of infusions, adverse events, discontinuation causes, efficacy, and patient perception of treatment questionnaire. A total of 306 records were analyzed followed by statistical calculations describing the following variables: demographic characteristics, previous disease modifying treatments (DMTs), number of infusions, adverse events, discontinuation causes, efficacy, and patient perception of treatment questionnaire.

Results

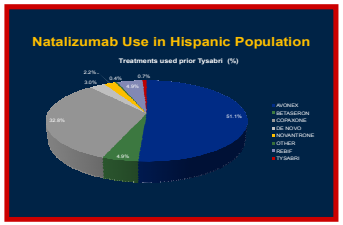

Figure 1

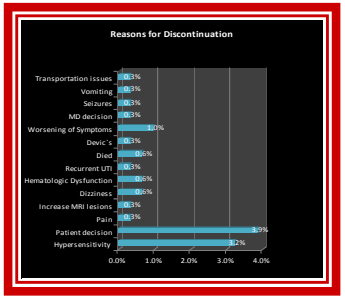

Figure 2

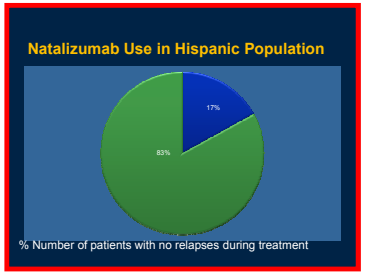

Figure 3

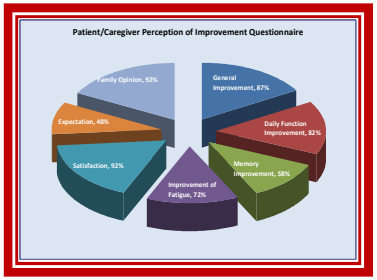

Figure 4

Results

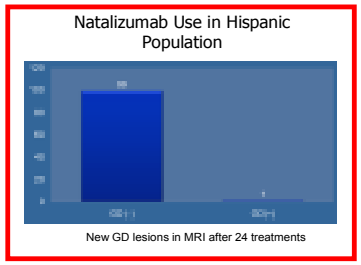

Figure 5

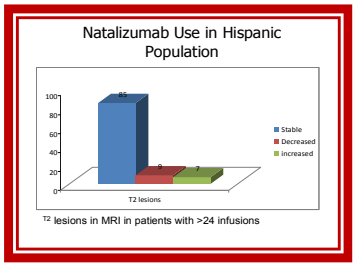

Figure 6

Results

99% of patient populations were Hispanic. From 1100 patients registered at the MS Center, 306 (29%) received Natalizumab. 76% were female with a mean age of 45 and 24% were male with a mean age of 42. 93% of patients switched from another DMT to natalizumab: 60.9% from interferon (IFN) and 35% from GA or Mitoxantrone. 20% had received immunosuppressant treatment. 70% of patients have received over 12 infusions. The number of natalizumab infusions received was 1-6 in 11% of patients, 19% received 7-11, 28% received 12-23, 30% received 24-35 and 12% received 36-46 infusions. 37 patients (12%) discontinued the treatment due to: 3.2%, a hypersensitivity reaction; 3.9%, patient desire; 1 % due to worsening of symptoms; 2.5% adverse events, and 1% other. Adverse events reported where dizziness, seizures, UTI, vomits, ambulatory difficulty. Anti-natalizumab antibodies were performed to only 2 patients with adverse events and were (negative).

Results

No cases of malignancy, liver disease or PML were diagnosed at our Center. From 195 patients who had received over 12 infusions, 83% were free of relapses and only 17% had relapses. In 11 of the 17 cases, a relapse occurred during the first 12 months of therapy. Relapse were more common during the first infusions.

MRI was routinely repeated yearly and performed to the majority of patients treated with natalizumab. Evaluation of patient's MRI after 24 infusions (n=101) showed a reduction in GAD lesions.

Only 1% (1/101) had new GAD lesions after 24 infusions. MRI T2 Flair lesions burden was unchanged in 85% (85/101), decreased in 9% (9/101), and increased in 7% (7/101) at last follow up evaluation.

A questionnaire was developed to assess the patient's and caregiver's perception of improvement with natalizumab, covering areas of improvement in general condition, improvement in daily function, fatigue, memory and met expectations, and satisfaction with the medication.

Results from patient perception questionnaire after 12 or more infusions were as follows: 87% (173/195) reported an improvement in their general condition, 82% (161/195) improvement in daily function, 58% (114/195) reported improvement in memory, and 72% (142/195) reported improvement in fatigue. For 48% (93/195) natalizumab met their expectations and 92% (181/195) were satisfied with the product. As per caregiver perception of improvement of patient, 92 % (179/195) reported improvement of patient condition.

Conclusions and Relevance

After switching from other DMTs, natalizumab was well tolerated in our Hispanic MS population.

No cases of malignancy, liver disease or PML were reported.

Efficacy, safety and tolerance is comparable to the results of AFFIRM clinical trials.

Greater response to NTZ was seen in earlier stages of the disease and in those who received ≤ 2 DMTs.

Our clinical experience with natalizumab will contribute to the understanding of natalizumab effects in the Hispanic American population.

Disclosures

Dr. Angel Chinea serve as speaker for BIOGEN-IDEC, TEVA, Novartis, BAYER and ALLERGAN.

Acknowledgments

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