Paroxysmal nocturnal hemoglobinuria (PNH) is an acquired clonal stem-cell disorder arising on the background of bone marrow failure. The UK has a nationally commissioned PNH service, led by the Department of Haematology, St. James's University Hospital, Leeds, UK. The results from this UK PNH patient cohort demonstrate the impact of eculizumab on quality of life and survival. - Long-term eculizumab therapy has been well tolerated by PNH patients. - No thrombotic sequelae have been reported in these patients. - These results confirm the long-term safety and efficacy of continuous eculizumab treatment and demonstrate that the significant clinical benefits and improvement in health status that have been observed in the 10-year experience managing PNH with eculizumab. - The UK PNH service provides longitudinal treatment for patients with PNH from the UK who received eculizumab treatment from May 2002 to April 2012. - All UK PNH patients were assessed for long-term safety and efficacy. - PNH patients were treated with eculizumab if they had: - Transfusion-dependent hemolysis or - Any of the following (independent of transfusions): - Transfusion independence in the majority of patients - Lactate dehydrogenase (LDH) >1.5 times the upper limit of normal (ULN) with anemia and symptoms such as fatigue, dyspnea, or abdominal pain due to PNH. - Survival with Long-term Eculizumab Treatment - The survival of UK PNH patients on eculizumab was compared with age- and sex-matched controls. - Survival of PNH patients after 10 years of eculizumab treatment was slightly inferior to controls, and causes of death were unrelated to hematologic conditions or related to the underlying bone marrow failure and not due to hemolysis or TE associated with the underlying PNH. - No causes of death were related to PNH. - UK PNH patients on eculizumab had improved survival as compared with historical controls in previously published accounts. - In the most recent 12 months on therapy, TEs were significantly reduced, to 3 events in patients (2.0%; P=0.05; Figure 3). - 1 patient developed a Budd-Chiari TE during complement blockade breakthrough caused by an infection. - 1 patient suffered from a cerebrovascular accident during reversal of warfarin overanticoagulation. - 1 patient developed transient ischemic attack/lacunar infarct, which was thought to be due to diabetic small vessel disease. - None of the 22 patients who had a TE in the 12 months prior to starting eculizumab experienced any further TEs since on eculizumab therapy. - Reduction in TEs with Eculizumab Therapy - 10 patients were treatment-free before receiving eculizumab. - 117 patients were transferred in the 12 months before receiving eculizumab and were on therapy for the most recent 12 months. - Of these 117 patients, 77 (65.8%) became transfusion independent. - Among those patients still requiring transfusions (n=40), there was a significant reduction in the number of units transfused, from a median of 26 units 12 months before therapy to 8 units in the most recent 12 months (P=0.004; Figure 2). - Eculizumab therapy (Figure 3). - Most Recent 12 Months on Eculizumab - 3 cases of meningococcal septicemia were reported (0.6 cases per 100 patient-years on therapy). - No thrombotic sequelae have been reported in these patients since discontinuation of anticoagulation. - Primary prophylaxis with warfarin was discontinued in 43 of 50 patients (86.0%) on anticoagulation therapy. - Secondary prophylaxis was discontinued in 50 patients (80.0%) due to the risk of bleeding from various and/or thrombocytopenia. - No thrombotic sequelae have been reported in these patients since discontinuation of anticoagulation. - Reduction of Transfusion Requirements with Long-term Eculizumab Therapy - 1 patient developed transient ischemic attack/lacunar infarct, which was thought to be due to diabetic small vessel disease. - 1 patient discontinued due to predominant apolipoprotein aemia. - 2 patients had spontaneous remissions of PNH clone during eculizumab treatment. - 3 patients were treated for the indication of pregnancy alone (with 1 patient subsequently restarting therapy). - 1 patient underwent successful transport for very severe apolipoprotein aemia. - The results from this UK PNH patient cohort demonstrate that the significant clinical benefits and long-term safety of eculizumab were sustained over 10 years of treatment. - Long-term eculizumab treatment led to: - Significant improvement in survival. - A significant reduction in the incidence of TE. - Safe discontinuation of primary anticoagulation. - Persistent and significant improvement in symptoms and quality of life, with no evidence of intolerance or refractoriness. - Transfusion independence in the majority of patients and significant reductions in the number of units transfused for those still requiring transfusions. - These results confirm the long-term safety and efficacy of continuous eculizumab treatment and demonstrate the impact of eculizumab on quality of life, reduction in PNH-related symptoms and improved survival for PNH patients.

**CONCLUSIONS**

**DISCLOSURES**

The UK PNH service now has more than 10 years of experience managing PNH with eculizumab. - The UK PNH service has more than 10 years of experience managing PNH with eculizumab. - The results from this UK PNH patient cohort demonstrate that the significant clinical benefits and long-term safety of eculizumab were sustained over 10 years of treatment. - Long-term eculizumab treatment led to: - Significant improvement in survival. - A significant reduction in the incidence of TE. - Safe discontinuation of primary anticoagulation. - Persistent and significant improvement in symptoms and quality of life, with no evidence of intolerance or refractoriness. - Transfusion independence in the majority of patients and significant reductions in the number of units transfused for those still requiring transfusions. - These results confirm the long-term safety and efficacy of continuous eculizumab treatment and demonstrate the impact of eculizumab on quality of life, reduction in PNH-related symptoms and improved survival for PNH patients.

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