Loss to Follow up in Patients with Neovascular Age Related Macular Degeneration treated with Anti-VEGF therapy in the United States

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Purpose:

When patients are lost to follow up, the ideal care is not delivered and patients likely suffer irreversible vision loss. The purpose of this study is to determine the incidence of loss to follow up in patients with neovascular age related macular degeneration (AMD) treated with anti-vascular endothelial growth factor (VEGF) injections in the United States and identify associated risk factors.

Methods:

This is a retrospective cohort analysis involving 292,080 patients with neovascular AMD identified from the national IRIS (Intelligent Research in Sight) Registry®. The patients were newly diagnosed between January 1, 2013- December 31, 2015 and treated with anti-VEGF therapy between January 1, 2013- December 31, 2018. Loss to Follow up (LTFU) was defined as interval greater than 12 months from last intravitreal injection. Multivariable logistic regression analysis involving baseline demographic and clinical conditions were utilized to determine odds ratios (OR) and 95% confidence intervals (CI).

Results:

For neovascular AMD, 20.14% of patients were LTFU and 78.62% of patients had a follow up within 12 months. 1.24% of patients who were LTFU did have later follow up. Odds of LTFU were greater among patients 76-80 years of age (OR, 1.25; 95% CI, 1.30-1.30; p<0.0001), 81-85 years of age (OR, 1.25; 95% CI, 1.20-1.30; p<0.0001), 86-90 years of age (OR, 1.44; 95% CI, 1.38-1.48; p<0.0001) and >90 years of age (OR, 1.68; 95% CI, 1.61-1.75; p<0.0001) compared with patients 70 years of age and younger. Odds of LTFU were lower for women (OR, 0.89; 95% CI, 0.88-0.92; p<0.0001) compared to men. Odds of LTFU among Hispanic patients (OR, 1.17; 95% CI, 1.10-1.23; p<0.0001) and patients of unreported race (OR, 3.03; 95% CI, 2.94-3.11; p<0.0001) were greater than with white patients. Odds of LTFU with patients with baseline visual acuity of 20/50-20/200 (OR, 1.21; 95% CI, 1.19-1.24; p<0.0001) were greater than patients with baseline visual acuity of 20/40 or better. Odds of LTFU with bilateral involvement (OR, 0.15; 95% CI, 0.14-0.15; p<0.0001) were less than unilateral involvement.

Conclusions:

There is a high rate of LTFU after anti-VEGF injections among patients with neovascular AMD. Risk factors identified included increasing age, male sex, Hispanic ethnicity, unreported race and unilateral involvement. Improving treatment adherence and follow up is critical to improve visual outcomes in neovascular AMD.