Abstract: 89

Anti-Vascular Endothelial Growth Factor Agents and Pan-retinal Photocoagulation Use in Patients with Proliferative Diabetic Retinopathy

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Purpose:
Recent clinical trials have demonstrated that anti-vascular endothelial growth factor (VEGF) treatments are non-inferior to pan-retinal photocoagulation (PRP) for proliferative diabetic retinopathy (PDR). However, differences in treatment cost and adherence requirements have driven discussion about optimal treatment. This study aims to characterize the utilization of PRP and anti-VEGF medications for the management of PDR.

Methods:
A retrospective cohort study from January 1, 2012 to December 31, 2017 from a nationally representative claims-based cohort, Clinformatics™ Data Mart Database (OptumInsight, Eden Prairie, MN). Enrollees were newly diagnosed with PDR with or without diabetic macular edema (DME) and no prior treatment history identified using both diagnostic and procedural codes

Results:
There were 76,812 anti-VEGF injections and 14,243 PRPs delivered to PDR patients from 2012 to 2017. Among all PDR patients, annual utilization of all anti-VEGF agents was 1,770 injections/1000 patients in 2012 and 3,180 injections/1000 patients in 2017 (p=0.006) while PRP utilization was 760 treatments/1000 patients in 2012 and 510 treatments/1000 patients in 2017 (p=0.163). PDR patients without DME received 570/1,000 and 2,320/1,000 (p<0.001) intravitreal injections in 2012 and 2017, while PRP utilization was 1,310/1,000 and 780/1,000 85(p=0.001), respectively. PDR patients with DME received 2,530/1,000 anti-VEGF injections in 2012 and 3,590/1,000 in 2017 (p=0.005), while PRP utilization was 410/1,000 and 390/1,000 (p=0.749), respectively. For all PDR patients and subgroups no significant changes in treatment rates occurred before and after the publication of Diabetic Retinopathy Clinical Research 89Network Protocol S publication in 2015.

Conclusions:
Intravitreal anti-VEGF use has increased for the treatment of PDR with and without DME while PRP use has remained stable. PRP use slightly declined for PDR patients without DME. These trends began prior to and did not significantly change before and after DRCR Protocol S. An important caveat is that patients without DME are the subgroup most frequently treated with PRP and least frequently treated with anti-VEGF injections.