Researchers find no difference in drugs for macular degeneration

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Researchers from Boston University School of Medicine (BUSM) and the VA Boston Healthcare System have conducted a study that failed to show a difference in efficacy between Bevacizumab (Avastin) and Ranibizumab (Lucentis) for the treatment of age-related macular degeneration (AMD). The study, which appears currently on-line in *Eye,* is believed to be the first study to describe one-year outcomes of a prospective, double-masked, randomized clinical trial directly comparing bevacizumab to ranibizuamab. Last October, these same researchers published early, six month outcomes of the same study, which also failed to show a difference in efficacy between these two drugs for treating AMD.

AMD is the leading cause of blindness over the age of 50 in developed Western countries. It presents in two forms, exudative (wet) or nonexudative (dry). Wet AMD is often more visually devastating with a higher risk of blindness. The gold standard of treatment for wet AMD is ranibizumab (Lucentis, Genentech Inc.), which was FDA approved as an eye injection in 2006. Bevacizumab (Avastin, Genentech Inc.) was FDA approved for the treatment of colorectal cancer in 2004, but has also been used worldwide in an off-label fashion as an eye injection for the treatment of wet AMD. Lucenitis costs approximately $2000.00 per injection, while Avastin costs approximately $50.00 per injection. While both drugs have shown independently to be effective in treating wet AMD, it was uncertain if both drugs were equally efficacious or if either one was better.

In this study, patients were enrolled by a 2:1 ratio to receive either the Avastin or Lucentis. Patients were given eye injections of Avastin or Lucentis every month for the first three months, followed by monthly examination and testing. They received further injections on an as needed basis for one year.

Fifteen patients received Avastin and seven patients received Lucentis. There was no significant difference in visual acuity and anatomic outcomes between the two groups. Both groups had an average improvement in vision of 1.5 lines on the vision testing chart, and only one patient (who was in the Lucentis group) lost a significant amount of vision (three lines or more). In addition, patients in the Avastin group underwent an average of eight injections over one year, while patients in the Lucentis group underwent an average of four injections.

"With the exception that total injections given to subjects over one year were significantly different between the two treatment arms, visual and anatomic outcomes at one year failed to show a significant difference between both groups," said lead author and Principal Investigator Manju Subramanian, MD, an assistant professor in Ophthalmology at BUSM. According to the authors, further studies with larger sample sizes are warranted.

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