Treatment of retinal disease more frequently involves eye injections

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Use of medications injected directly into the eye appears to be an increasingly common treatment for age-related macular degeneration in one region of Canada, but only a small proportion of ophthalmologists perform the procedure, according to a report in the March issue of *Archives of Ophthalmology*.

Age-related macular degeneration is the leading cause of blindness in Western nations, according to background information in the article. The development of vascular endothelial growth factor inhibitors—medications that prevent the formation of new blood vessels—has revolutionized the treatment of this condition. One such drug, bevacizumab, was approved for treating colorectal cancer in Canada in 2005 but has been used off-label since to treat retinal disease. A second, ranibizumab, was approved in 2007.

"Access to new vascular endothelial growth factor inhibitor therapies may be limited by a number of factors, including regulatory approval, cost and the necessity of administering these drugs via serial intravitreal injections under the care of an ophthalmologist," the authors write. Widespread uptake of these therapies would significantly affect the practice of many ophthalmologists, note Robert J. Campbell, M.D., M.Sc., of Queens University and Hotel Dieu Hospital, Ontario, Canada, and colleagues. To evaluate patterns of care for age-related macular degeneration, they analyzed monthly fee claims for intravitreal injections submitted to the Ontario Health Insurance Plan between 2000 and 2008 and linked procedures to the clinicians who performed them.

"Following the regulatory approval of bevacizumab in September 2005, the rate of intravitreal injections in Ontario rapidly grew eight-fold to its peak level in November 2007 (growth from 3.5 to 25.9 injections per 100,000 Ontarians per month)," the authors write. "This striking upswing in injections preceded the availability of ranibizumab in Ontario by almost a year."

However, the number of ophthalmologists administering these injections increased at a slower rate, from 39 (10 percent of all ophthalmologists) in September 2005 to 64 (15 percent of all ophthalmologists) in November 2007. Among those performing the injections, the median (midpoint) monthly number of procedures increased from seven in 2005 to 30.5 in the first quarter of 2008. "In 2007, more than 50 percent of intravitreal injections were performed by just 3 percent of Ontario's ophthalmologists, and the monthly number of injections performed by this group of intensive service providers grew from 162 to 1,436 between September 2005 and November 2007," the authors write.

The findings highlight the concentration of the procedures among a small number of providers and raise concerns about access to the treatment in the future, they note. "New procedures often diffuse over time from a small group of early adopters to a broader section of physicians. However, the specialized skills required to diagnose and manage age-related macular degeneration, combined with limited access to necessary diagnostic testing equipment, may restrict such diffusion in this case."

"The remarkable number of injection procedures required with current administration regimens, together with the limited supply of ophthalmologists and retina subspecialists, has the potential to limit equitable access to intravitreal injections in some regions and may also negatively affect access to services for other vision-threatening eye conditions," the authors conclude.

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