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## Vitrectomy to treat endophthalmitis after cataract surgery may not increase visual acuity

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The use of vitrectomy in Medicare beneficiaries was higher than recommended in the Endophthalmitis Vitrectomy Study and may not have an increased benefit in treating endophthalmitis after cataract surgery, according to a study.

The retrospective cohort study evaluated 615 Medicare beneficiary cases of endophthalmitis that developed within 6 weeks after cataract surgery vs. data from the Endophthalmitis Vitrectomy Study and Endophthalmitis Population Study of Western Australia.

Fifty-eight percent of 502 cases with known culture results were culture positive. Culture-positive cases were more likely than culture-negative cases to have a visual acuity of 20/200 or worse at presentation and at final visit, particularly those with streptococci.

Vitrectomy was performed in 279 cases, which included 85% of patients who had initial acuity of light perception and 41% of patients who had initial acuity better than light perception. Vitrectomy did not improve the chance of achieving 20/40 final visual acuity if patients had an initial acuity of light perception. Among the group that presented with visual acuity better than light perception, 42% of patients with vitrectomy achieved final visual acuity of 20/40 or better vs. 52% of those without vitrectomy.

More than 99% of cases were treated with intravitreal vancomycin, with 97% of patients receiving at least two intravitreal antibiotics.

Overall, 34% of patients had a final visual acuity of 20/200 or worse. Worse initial acuity and older age at diagnosis were predictors of poor final acuity. – by *Kristie L. Kahl*

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- Endophthalmitis remains a small but devastating complication after cataract surgery, a commonly performed procedure in the US.

This retrospective study was well designed, but as acknowledged by the authors, it suffers from all the shortcomings of a retrospective design, such as lack of control of the variables and inability to establish treatment guidelines. It is the largest population based series of endophthalmitis cases after cataract surgery with 615 cases, whereas the landmark EVS had 420 cases.

The study found that the age group 75-84 years had the highest rates of endophthalmitis. It would be interesting to know if this age group also had the highest rates of cataract surgery. The study also found that the largest number of cases occurred in Florida and lowest in Michigan, yet these findings did not correlate with the cataract surgery rate per 1,000 person/years in those states, since Florida and Michigan both had the highest cataract surgery rates. The authors did not comment on the possible causes of increased endophthalmitis rates in Florida.

Perhaps the most surprising finding was that vitrectomy was common in eyes with acuity better than LP, which goes against the recommendations of the EVS. The study also found that among those with initial visual acuity of better than LP, vitrectomy resulted in worse visual outcome.

Another interesting finding is the borderline positive association between the use of amikacin with vancomycin for the intravitreal injection compared to ceftazidime with vancomycin with improved probability of vision to better than 20/200 with the amikacin combination. As stated above, this is a retrospective study, but it may influence the antibiotic choice among retina specialists treating post-cataract surgery endophthalmitis.

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