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IMAGE

Infographic: A randomized trial of immediate vitrectomy and of intravenous antibiotics for postoperative bacterial endophthalmitis: the endophthalmitis vitrectomy study

Imran H. Yusuf[1,2]✉, Christin Henein[3,4] and Sobha Sivaprasad[4]

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The Endophthalmitis Vitrectomy Study sought to evaluate the roles of immediate vitrectomy and systemic antibiotic treatment in the management of post-operative endophthalmitis following cataract surgery or secondary intraocular lens implantation, presenting within 6 weeks of the original surgery (median time to presentation was 6 days). The intervention (either vitrectomy, or vitreous tap) was performed within 6 h of the initial examination. All patients received intravitreal amikacin (0.4 mg) and vancomycin (0.1 mg), in addition to sub-conjunctival and topical antibiotics and steroids, with oral prednisolone (30 mg twice daily for 5–10 days). BCVA – best corrected visual acuity; IOL – intraocular lens; IV – intravenous; ETDRS – Early Treatment Diabetic Retinopathy Study; LP – light perception vision; VA – visual acuity; ns – not statistically significant.

[1]Nuffield Laboratory of Ophthalmology, Department of Clinical Neurosciences, Oxford University, West Wing, John Radcliffe Hospital, Oxford OX3 9DU, UK. [2]Oxford Eye Hospital, John Radcliffe Hospital, Oxford University Hospitals NHS Foundation Trust, Headley Way, Oxford OX3 9DU, UK. [3]UCL Institute of Ophthalmology, 11-43 Bath Street, London EC1V 9EL, UK. [4]NIHR Moorfields Biomedical Research Centre, Moorfields Eye Hospital, London, UK. ✉email: Imran.yusuf@eye.ox.ac.uk

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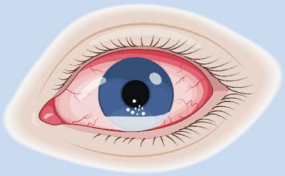
A Randomized Trial of Immediate Vitrectomy and of Intravenous Antibiotics for Postoperative Bacterial Endophthalmitis: The Endophthalmitis Vitrectomy Study

Endophthalmitis Vitrectomy Study Group. *Arch Ophthalmol.* 1995;113:1479-1496.

Design

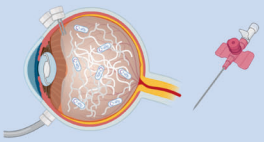
Investigator-initiated, multicenter, randomized clinical trial

420 patients
Post-operative endophthalmitis
<6 weeks after cataract surgery
or secondary IOL implantation

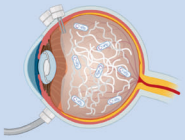


Outcome measures at 9 months:
BCVA: ETDRS chart
Media clarity
Subgroup analysis by presenting BCVA

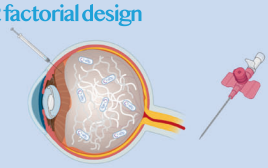
Randomization: 2x2 factorial design



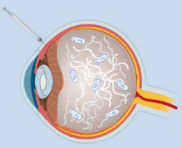
Vitrectomy
+ intravenous
ceftazidime & amikacin
n=106



Vitrectomy
n=112



Vitreous tap
+ intravenous
ceftazidime & amikacin
n=100



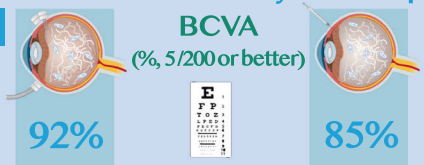
Vitreous tap
n=102

Results 9 months

Immediate vitrectomy versus tap

Overall

BCVA
(%, 5/200 or better)



92% vs 85%
P=0.03

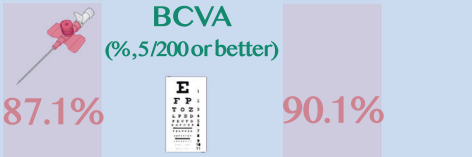
Media clarity*

90% vs 83%
ns

*20/40 or better view with indirect ophthalmoscope

Intravenous antibiotics

BCVA
(%, 5/200 or better)



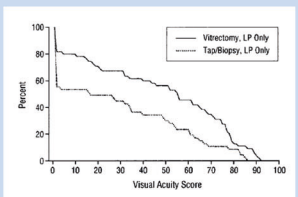
87.1% vs 90.1%
P=0.35

Media clarity*

88% vs 85%
ns

*20/40 or better view with indirect ophthalmoscope

Sub-group analysis



Relative risks for decreased vision based on surgical treatment and initial visual acuity (95% confidence interval)

Rx	Vision better than LP	LP vision
Tap/biopsy	1.0 (Reference cohort)	4.15 (2.94 - 5.84)
Vitrectomy	1.10 (0.87 - 1.38)	1.92 (1.40 - 2.62)

LP vision at presentation

BCVA

33% 20/40, or better 11%
P<0.001

20% 5/200, or worse 47%
P<0.001

Conclusion

In post-operative endophthalmitis, immediate vitrectomy is of benefit if vision is light perception at presentation. Intravenous antibiotics are of no benefit.

Reference: Endophthalmitis Vitrectomy Study Group. A Randomized Trial of Immediate Vitrectomy and of Intravenous Antibiotics for the Treatment of Postoperative Bacterial Endophthalmitis. Arch Ophthalmol. 1995;113:1479-1496.

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COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

Correspondence and requests for materials should be addressed to Imran H. Yusuf.