The OASIS Trial: Natural History of Symptomatic Vitreomacular Adhesion

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OBJECTIVE To report natural history findings with respect to the sham group of the Phase IIIb OASIS clinical trial studying ocriplasmin and sham treatments for symptomatic vitreomacular adhesion (VMA).

PURPOSE The OASIS trial was designed to evaluate the long-term efficacy and safety profile of ocriplasmin vs sham for the treatment of symptomatic VMA over a 24-month period. Here we report the natural history of symptomatic VMA progression and visual and anatomical changes over time, which is represented by the sham group in the study.

METHODS OASIS was a Phase IIIb, randomized, sham-controlled, double-masked, multicenter, 24-month clinical trial. A total of 220 subjects were enrolled and treated in a 2:1 ratio (146 with ocriplasmin 0.125 mg intravitreal injection, 74 with sham). Exclusion criteria included full-thickness macular hole (FTMH) >400 μm and presence of epiretinal membrane (ERM). Subjects were stratified by presence or absence of FTMH at baseline (BL). The primary endpoint was the proportion of subjects with pharmacological VMA resolution at Day 28. The secondary endpoints included change in best-corrected visual acuity (BCVA) irrespective of vitrectomy, nonsurgical FTMH closure, and vitrectomy assessed at Month 24.

RESULTS Subjects in the sham group were 69 years old on average. At BL, metamorphopsia was present in 79.5% of subjects, and abnormal color vision was noted in 16.4%. Based on the assessment of the masked central reading center, 35.6% of subjects had a FTMH and 23.3% had an ERM at BL. VMA was diagnosed within 3 months of study inclusion in 78.1% of subjects, and spontaneous release occurred in 13.6% by study end (Month 24). By Month 6, 31.1% of subjects had undergone a vitrectomy and by Month 24, 43.0%. Among subjects with a FTMH at BL, the hole closed after vitrectomy and stayed closed by study end for 57.7% (15/26). For 19.2% of subjects, the FTMH did not close by Month 24. BCVA at BL was higher in subjects without vitrectomy than in those with vitrectomy (66.2 vs 57.4 letters), but the mean BCVA change from BL in subjects without vitrectomy was lower (2.8 vs 11.7 letters). BCVA gain of ≥2 lines occurred in 56.3% of subjects with vitrectomy vs in 26.8% of those without.

CONCLUSION The OASIS study using sham injection as a control has provided additional information on the natural history of patients with symptomatic VMA. One-third of patients with symptomatic VMA required a vitrectomy by Month 6. Greater improvement in BCVA was seen in subjects who had vitrectomy compared with those without vitrectomy; nonetheless, subjects without vitrectomy had higher BCVA at BL.

TAKE HOME MESSAGE Results from the sham group of the OASIS study, which followed patients for 24 months, provide additional information on the natural history of patients with symptomatic VMA.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

The OASIS Trial: Efficacy and Safety Outcomes in Subjects With Full-Thickness Macular Hole

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OBJECTIVE To report results of the OASIS clinical trial investigating ocriplasmin treatment for symptomatic vitreomacular adhesion (VMA) in subjects with full-thickness macular holes (FTMH) at baseline (BL).

PURPOSE The OASIS trial was designed to evaluate the long-term efficacy and safety profile of ocriplasmin for the treatment of symptomatic VMA over a 24-month period. In this abstract, efficacy and safety outcomes in subjects with FTMH at BL are presented.

METHODS OASIS was a Phase IIIb, randomized, sham-controlled, double-masked, multicenter, 24-month study. Subjects (N=220) were randomized to ocriplasmin 0.125 mg or sham injection in a 2:1 ratio, stratified by presence of FTMH at BL. The number of subjects with FTML at BL was 50/146 in the ocriplasmin group and 26/74 in the sham group. Exclusion criteria included FTMH >400 μm and presence of epiretinal membrane. The primary endpoint was the proportion of subjects with pharmacological VMA resolution at Day 28. Secondary endpoints were assessed at Month 24 and included best-corrected visual acuity (BCVA) improvement of ≥2 lines irrespective of vitrectomy, nonsurgical FTMH closure, and vitrectomy.

RESULTS For subjects with FTMH at BL, 52.0% vs 11.5% of the ocriplasmin and sham treatment groups, respectively, achieved pharmacological VMA resolution at Day 28. For these subjects, 62.0% vs 57.7% of the ocriplasmin and sham groups, respectively, showed ≥2 lines improvement in BCVA from BL at Month 24 (last observation carried forward), irrespective of vitrectomy. At study end, 30.0% of the ocriplasmin subjects and 15.4% of the sham subjects had a FTMH closure without vitrectomy. In 60.0% of the ocriplasmin subjects and in 65.4% of the sham subjects, the FTMH closed after vitrectomy. Although the sample size was small, the results indicated that the nonsurgical closure rate was higher when the size of the FTMH was smaller (FTMH ≤250 μm compared to >250-400 μm). The proportion of subjects with vitrectomy by Month 24 was lower in the ocriplasmin group compared to sham: 68.0% vs 84.6%. The most common adverse events in subjects with FTMH at BL were vitreous floaters and photopsia.

CONCLUSION Ocriplasmin increased VMA resolution in subjects with FTMH compared to the Phase III trials. BCVA gain by Month 24 (irrespective of vitrectomy) in subjects with FTMH was similar between the 2 treatment groups, with a lower vitrectomy rate in the ocriplasmin group. A higher rate of nonsurgical FTMH closure was observed in the ocriplasmin group. Ocriplasmin provides benefit in patients with FTMH.

TAKE HOME MESSAGE In the OASIS study, ocriplasmin treatment increased VMA resolution in subjects with FTMH at baseline, and the rate of nonsurgical FTMH closure was higher in the ocriplasmin group compared to the sham group.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Correlation of Intraoperative Optical Coherence Tomographic Images With Postoperative Foveal Microstructure in Eyes With Idiopathic Macular Hole

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OBJECTIVE We evaluated the intraoperative optical coherence tomographic (OCT) images of eyes with idiopathic macular hole (MH) whether the intraoperative OCT findings affect postoperative foveal microstructure.

PURPOSE To evaluate correlation of intraoperative OCT images with postoperative OCT images in eyes with idiopathic macular hole whether the presence of residual fragments of internal limiting membrane (ILM) after peeling and epiretinal proliferation may affect postoperative images of foveal microstructure of closed macular hole.

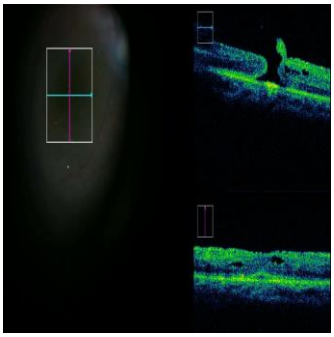
METHODS Pars plana vitrectomy with ILM peeling and gas tamponade was performed in 10 eyes with idiopathic MH. Preoperative and postoperative OCT images (Spectralis, Heidelberg) and intraoperative OCT images (Rescan, Carl Zeiss Meditec) were compared.

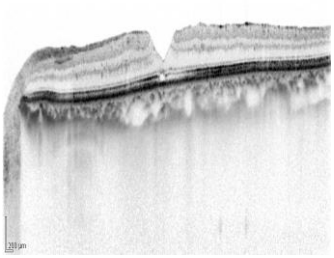
RESULTS MHs were closed postoperatively in all eyes. Inverted ILM technique was performed in one eye with MH of a larger diameter. In the intraoperative OCT images after ILM peeling, ILM fragments at the edge of MH were detected in 3 eyes including

one eye with inverted ILM technique. In these eyes, hyperreflective layer at the surface of the fovea were found with postoperative OCT in all 3 eyes. Epiretinal proliferation was detected with intraoperative OCT in 3 eyes but was not detected by preoperative OCT images in 2 eyes. The epiretinal proliferation was not removed completely during the surgery and the hyperreflective layer at the fovea was detected with postoperative OCT in one eye but not in 2 eyes.

CONCLUSION Intraoperative OCT images can detect foveal microstructure which may disappear in postoperative images. Intraoperative microstructural findings may contribute to postoperative microstructural recovery of the closed MH.

TAKE HOME MESSAGE Intraoperative optical coherence tomography is an useful tool to detect foveal microstructure which may affect postoperative microstructural recovery of the closed macular hole.





HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board