



Outcomes of Eyes with Failed Primary Surgery for Idiopathic Macular Hole

John T.O. Yek, BBMed, MChD,¹ Alex P. Hunyor, MBBS,^{3,4} William G. Campbell, MBChB,⁵ Ian L. McAllister, MBBS, DM,⁶ Rohan W. Essex, MBBS, MBIostat,^{1,2,5} for the Australian and New Zealand Society of Retinal Specialists Macular Hole Study Group

Purpose: To describe the anatomic and visual outcomes of eyes undergoing reoperation after failed primary surgery for idiopathic macular hole.

Design: Prospective registry study.

Participants: One hundred three patients who had undergone failed macular hole surgery.

Methods: Unclosed idiopathic macular holes were identified from a large national prospective registry run by the Australian and New Zealand Society of Retinal Specialists. Unclosed idiopathic macular holes were defined as idiopathic macular holes that underwent vitrectomy surgery for the first time, but were never observed to close in the postoperative period. Surgeons were contacted to submit retrospectively details of subsequent management and long-term outcome of these eyes.

Main Outcome Measures: Macular hole closure; visual acuity (VA) change relative to baseline at 3, 12, and 24 months; and hole size at all time points.

Results: One hundred three patients with failed macular hole surgery were identified, among whom 53 underwent reoperation, 49 did not, and 1 was lost to follow-up. Macular hole closure was achieved in 45 of 53 patients (85%) undergoing revision surgery. Mean change in VA from baseline in eyes undergoing revision surgery versus eyes that did not was +2.8 letters versus -1.9 letters at 3 months ($P = 0.278$), +8.2 letters versus -1.9 letters at 12 months ($P = 0.167$), and +18.3 letters versus -3.4 letters at 24 months ($P = 0.022$). Thirty-six percent of eyes with reoperated holes showed improved VA of 15 letters or more at 3 months after operation, increasing to 48% at 12 months and 65% at 2 years. Before revision surgery, mean macular hole size was observed to increase from 483 μm to 562 μm after failed primary surgery ($P = 0.046$).

Conclusions: In eyes undergoing revision surgery, reoperation for unclosed macular holes was significantly better than observation, although these visual gains took some time to occur. The surgical success rate was lower than that for primary idiopathic macular hole. The selection criteria for revision surgery need to be defined. *Ophthalmology Retina* 2017;■:1–8 © 2017 by the American Academy of Ophthalmology



Supplemental material available at www.ophtalmologyretina.org.

Primary closure rates with vitrectomy for idiopathic macular hole range from 78% to 96% in larger studies.^{1–15} We recently published a large registry-based case series containing more than 2000 procedures in which we observed a closure rate of 95.6%.^{2,3} Although success rates generally are excellent with modern techniques, there remain a number of eyes whose holes fail to close after primary surgery.

At present, comparatively few data on the long-term anatomic and visual outcomes after failed macular hole surgery exist. Management options for unclosed macular holes include observation, outpatient fluid–gas exchange, and vitrectomy with a number of approaches to the internal limiting membrane (ILM) and postoperative tamponade choice. The reported rates of successful secondary hole closure in larger studies ($n > 20$) range from 52% to 87% (Table 1).^{16–25} A number of smaller series report closure rates of as high as 100%.^{26–28} Despite relatively favorable rates of hole closure, the largest study reported to date ($n = 51$) observed little difference in visual outcome

between observation and revision surgery and questioned the value of repeat surgery in eyes with unclosed holes.²⁴ Herein we report the anatomic and visual outcomes of repeat vitrectomy after failed primary surgery for idiopathic macular holes identified from a large macular hole registry developed by the authors for the Australian and New Zealand Society of Retinal Specialists.

Methods

Unclosed primary macular holes were identified from a prospective online registry of retinal surgery maintained by the Australian and New Zealand Society of Retinal Specialists. Unclosed primary macular holes were defined as idiopathic macular holes that underwent vitrectomy surgery but were never observed to close in the postoperative period. This group of holes is distinct from the less common situation of reopened or recurrent macular hole, where the hole is observed to close but subsequently reopens.

Table 1. Anatomic Results of Reoperation for Idiopathic Macular Hole after Failed Primary Surgery: Summary of Studies with More Than 20 Patients

Study	Design	Sample Size	Revision Surgery	Closure Rate (%)
Johnson et al (1997) ¹⁶	Retrospective series	23	Fluid–gas	74*
Ezra et al (1997) ¹⁷	Randomized controlled trial	46	Autologous serum	80*
Hillenkamp et al (2007) ¹⁸	Retrospective series	28	Platelets	68
D'Souza et al (2011) ¹⁹	Retrospective series	21	Autologous serum	52
Moisseiev et al (2013) ²⁰	Retrospective series	29	Fluid–gas	69
Cillino et al (2016) ²¹	Randomized controlled trial	21	Densiron/gas	57
Rao et al (2013) ²²	Retrospective series	29	Fluid–gas	82
Rizzo et al (2009) ²³	Retrospective series	23	Densiron	87
Valldeperas and Wong (2008) ²⁴	Retrospective series	51	Platelets	76
Smiddy et al (1996) ²⁵	Retrospective series	48	TGF- β_2	83*

*Included flat-open holes as successful closures.

The macular hole dataset is described in detail elsewhere.² All surgeons who are members of the Australian and New Zealand Society of Retinal Specialists are invited to enter details prospectively of all macular hole surgeries they perform into an online database. Unclosed holes were identified and surgeons were contacted and asked to submit retrospectively additional clinical information regarding the subsequent management of these patients, including hole size after surgery, details of any

subsequent surgery, and longer-term outcomes (12 and 24 months). The decisions regarding further management (i.e., revision surgery or none) were made by the patients and surgeons based on their clinical and social situation, with no involvement from the investigators. There was no randomization. Traumatic holes, holes associated with pathologic myopia, eyes with refractive errors worse than -6 diopters spherical equivalent, and stage 1 macular holes (i.e., no full-thickness retinal defect) were excluded,

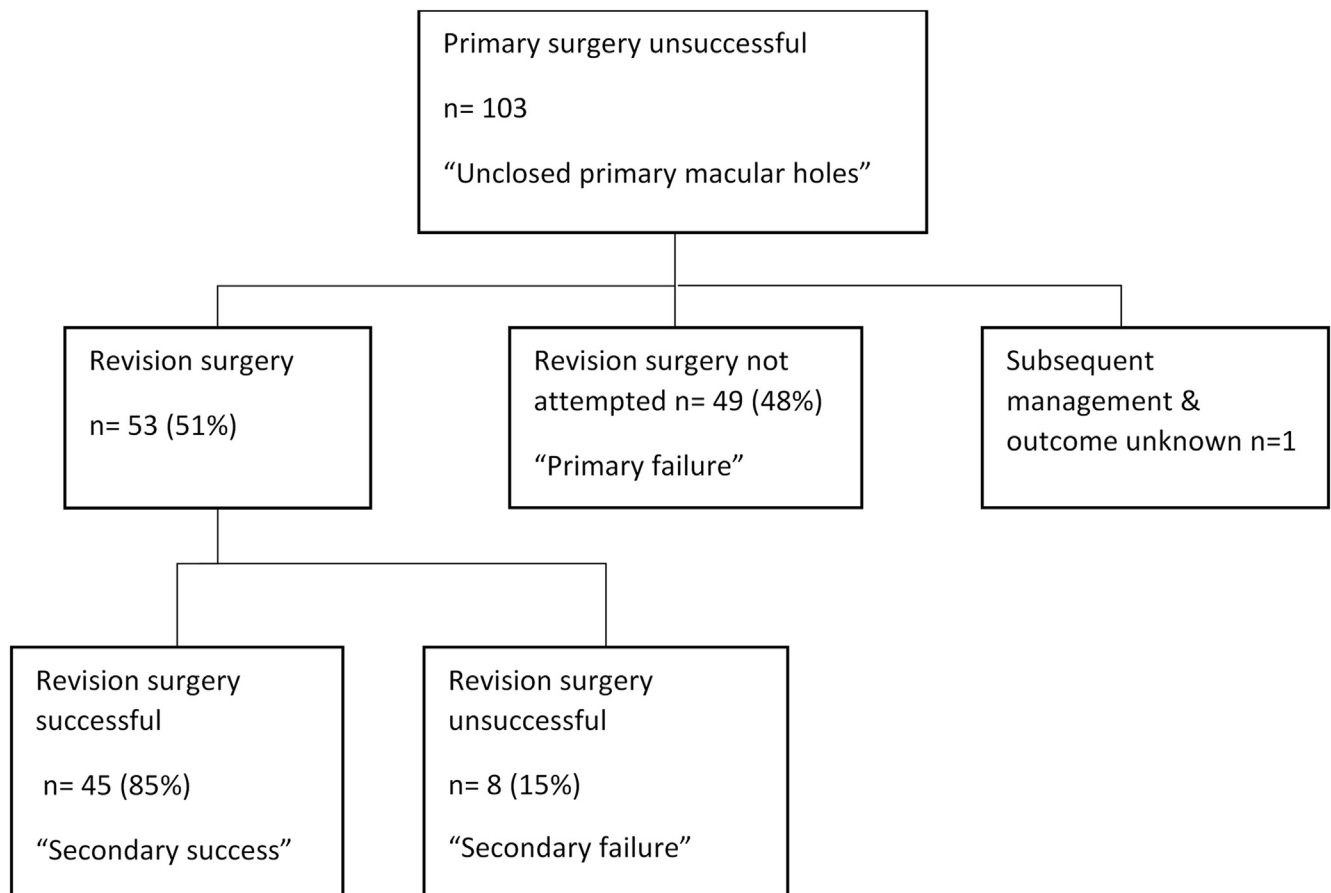


Figure 1. Flow chart showing management and anatomic outcomes of eyes with failed primary macular hole surgery.

Download English Version:

<https://daneshyari.com/en/article/8794435>

Download Persian Version:

<https://daneshyari.com/article/8794435>

[Daneshyari.com](https://daneshyari.com)