Vision or Madness? Primary vitrectomy without gas tamponade

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Wilson Heriot, vitreo-retinal surgeon from Melbourne, continues to elaborate the concept of primary vitrectomy without gas. To obviate gas will not secure from proliferative vitreoretinopathy (PVR). But it would facilitate air travel, supersede positioning, and avoid secondary cataracts and glaucoma. Following the pioneering reports of Martinez-Castillo [1], Dr. Heriot refines the technique for a retino-choroidal seal by actively drying the retina around the hole prior to the application of laser burns. In 2014 Dr. Heriot filed a patent on how to optimally dry reattached peripheral retina in an air filled eye (AU2014207245). He presents histological evidence that retina and choroid can be fused through light energy, but only in the absence of subretinal fluid. Vitreo-retinal surgeons are coined to set safety first, humbled by the fact that failed retinal reattachment funnels into PVR. The evidence so far is in-sufficient to bid farewell to gas. But it is sufficient to be communicated and to pursue further investigations: Is the seal of the subretinal space adequate, not only in terms of morphology but also by means of mechanical strength? Yoon and Marmor [2] reported 1988 that laserburns compromise the adhesive force by 50 % up to 8 h. Eventually a prospective randomised study against the gas filled eye is inevitable to test the hypothesis, like the SPR-Study [3] tested primary vitrectomy against buckling. The re-attachment

rate of 72-79 % (phakic-pseudophakic) is up to be beaten. Dr. Heriot considers himself to be “mad”, according to a 2014 interview with the “Centre for Eye Research Australia” [4]. But after all it may be so, that the circumvention of a gas tamponade fosters persistent retinal reattachment and reduces the risk of PVR, since gas aggravates blood-ocular barrier breakdown [5].

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