Aim: To compare the effectiveness of pneumatic retinopexy for pseudophakic and phakic rhegmatogenous retinal detachment (RRD) repairs.

Methods: In this retrospective, interventional case series; we investigated 9 patients (9 eyes) who had undergone pneumatic retinopexy as the initial procedure for RRD between 2009 and 2011. Patients were assigned into two groups according to their lens status (phakic or pseudophakic). Sulphur hexafluoride (0.5 ml) was injected into 4 eyes, while perfluoropropane (0.3 ml) was introduced into 5. Laser photocoagulation was used as retinopexy after the retina was reattached. The primary outcome measure was retinal reattachment rate with a single intervention, at least for 3 months. Secondary outcome measures included postoperative visual acuity and postoperative complications.

Results: In the phakic group (n=5), all patients achieved anatomical reattachment of retina with a single procedure. Only one of them with high myopia needed scleral buckle surgery and repeat injection of gas, four months after surgery. In the pseudophakic group (n=4), all of the patients needed secondary interventions including repeat injection of gas (2 eyes), scleral buckle surgery (3 eyes) and pars plana vitrectomy (4 eyes). Causes of unresponsiveness to the therapy were; new retinal breaks (2 eyes) and anterior proliferative vitreoretinopathy (1 eye). In four of nine, the detachment was involving the macula. Visual acuity ranged from hand motions to 0.8 preoperatively and 0.1 to 1.0 postoperatively. The average duration of follow up was 9.2 months. No significant treatment related complication was observed.

Conclusions: Pneumatic retinopexy is not recommended for patients with pseudophakic RRD.