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FLUID–GAS EXCHANGE WITH SF6 FOR PERSISTENT MACULAR HOLES: A CASE SERIES OF 8 EYES

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To evaluate the anatomical and functional outcomes of fluid–SF6 gas exchange for the treatment of persistent macular holes following initial vitrectomy.

This retrospective case series included 8 eyes of 8 patients with persistent full-thickness macular holes that remained open after primary pars plana vitrectomy with internal limiting membrane peeling and gas tamponade. All patients underwent a secondary fluid–gas exchange with 20% SF6 under local anesthesia without additional manipulation. Postoperatively, patients were advised to maintain a prone position for 3-5 days. Pre- and postoperative best-corrected visual acuity (BCVA) and optical coherence tomography (OCT) findings were analyzed.

Anatomical closure of the macular hole was achieved in 8 of 8 eyes (100 %) following the fluid–gas exchange procedure. The duration between the primary surgery and the secondary fluid–gas exchange was 1 week. BCVA improved in all eyes. No significant intraoperative or postoperative complications were observed.

Fluid–SF6 gas exchange without additional manipulation is a simple and effective approach for the treatment of persistent macular holes after initial surgery, achieving high closure rates with minimal invasiveness. This technique may be considered as a valuable secondary intervention before planning more extensive reoperations in such cases, particularly when primary closure was initially expected.