Oral | Abstract 54

SURGICAL TIPS & TRICKS (MY WAY) & COMPLICATIONS

RETHINKING DROPPED NUCLEUS SURGERY: AVOIDING THE FRAGMATOME

2-min Case presentation

Rath B.*

Bhoomika Eye Institute ~ Bhubaneswar ~ India

Dropped nuclear fragments are a known complication of cataract surgery, commonly managed using a fragmatome during pars plana vitrectomy. While effective, fragmatome use requires additional instrumentation, larger sclerotomies, and complete posterior vitreous detachment, which may increase surgical complexity and risk of complications. This study highlights an alternative pars plana vitrectomy –based approach that focuses on controlled fragment handling and selective use of instruments to safely manage dropped lens while minimizing or avoiding the need for a fragmatome.

A surgical video demonstrates a stepwise 25-gauge pars plana vitrectomy technique for the management of nuclear fragments dislocated into the vitreous cavity following complicated cataract surgery. After establishing standard ports, meticulous core and peripheral vitrectomy is performed to release vitreous adhesions surrounding the nuclear fragments. The size, density, and weight of the nucleus are assessed intraoperatively to determine whether elevation can be achieved using suction from instruments such as the vitreous cutter, backflush cannula, 26-gauge needle, or diathermy probe. Additional posterior support may be provided using a Finesse loop. In selected cases, instruments traditionally used in manual small-incision cataract surgery—including a 23-gauge Simcoe cannula or serrated vectis through a scleral tunnel—may assist in fragment stabilization and extraction. Perfluorocarbon liquid is used to elevate the nuclear fragments away from the retinal surface, providing retinal protection. The fragments are subsequently stabilized and emulsified using controlled vitreous cutter parameters or removed using ancillary instruments, thereby avoiding the need for a fragmatome. Key surgical steps aimed at minimizing retinal trauma and preventing intraoperative complications are highlighted. Fragmatome use remains preferable in cases associated with significant nuclear density or concomitant Descemet’s membrane detachment.

The described approach enabled controlled removal of nuclear fragments while maintaining retinal safety and avoiding the potential complications associated with fragmatome use. Adequate vitreous clearance, intraoperative assessment of nuclear characteristics, and controlled manipulation of fragments were critical to surgical success.

Dropped nuclear fragments can be effectively managed using pars plana vitrectomy techniques without routine fragmatome use. In selected cases, this approach offers a safe and versatile alternative that may reduce retinal injury and simplify surgical management