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IS THERE A SAFE GLYCEMIC THRESHOLD FOR RETINA SURGERY?

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Pars plana vitrectomy (PPV) is a standard procedure for restoring vision in patients with vitreoretinal disorders, including diabetics. Diabetes is an identifiable risk factor for endophthalmitis and stroke. However, the impact of HbA1 on the short-term risk of these adverse events post-PPV surgery remains unclear, with no to little evidence available.

To assess the safety of PPV across a spectrum of glycemic control, focusing on postoperative endophthalmitis and 30-/60-day major systemic adverse events (SAEs). We analyzed a large, multicenter dataset comparing diabetic and non-diabetic patients undergoing PPV. Patients were stratified by preoperative HbA1c levels into good (0–6.99%), poor (7–8.99%), and very poor (≥9%) glycemic control categories. We performed propensity score matching for demographics, systemic comorbidities including chronic kidney disease and heart failure, as well as ocular comorbidities. Postoperative endophthalmitis incidence and odds ratios (ORs) were compared between diabetic and non-diabetic patients within each stratum. Additionally, hazard ratios (HRs) were calculated for 30- and 60-day major SAEs, including mortality, stroke/transient ischemic attack (TIA), myocardial cardiac events (MCEs), hospitalizations, and a composite outcome, using matched outpatient-visit controls.

Endophthalmitis occurred at similar rates in all groups. In non-diabetic controls, incidence was consistently 0.119%. In diabetic patients, endophthalmitis rates were: good control (HbA1c 0–6.99%): 0.229%, OR 1.57 (95% CI: 0.52–4.81), poor control (HbA1c 7–8.99%): 0.275%, OR 3.53 (0.99–12.67) and very poor control (HbA1c ≥9%): ≤0.312%, OR 1.92 (0.17–21.12). Major SAEs were also not very different between diabetic patients who had PPV compared to outpatient-visit across all HbA1c strata.

Vitrectomy is associated with similar rates of both postoperative endophthalmitis and serious systemic complications across all levels of preoperative glycemic control. These findings support not cancelling scheduled PPV in patients with poorly controlled diabetes.