Selective Laser Trabeculoplasty and Outcomes of Subsequent Phacoemulsification Combined with Kahook Dual Blade Goniotomy

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Purpose: To investigate the relationship between intraocular pressure (IOP)-lowering success of selective laser trabeculoplasty (SLT) and combined phacoemulsification/Kahook Dual Blade (phaco/KDB) goniotomy in eyes with mild to severe open angle glaucoma (OAG).

Methods: Eyes undergoing combined phaco/KDB goniotomy and that had previously undergone SLT were analyzed. Data collected included demographics, glaucoma type and severity, IOP, and topical IOP-lowering medications before and after both procedures. Eyes were divided into two groups based on success of SLT, defined as IOP reduction of at least 20% maintained on at least two consecutive follow-up visits without any subsequent medication additions or interventions. Phaco/KDB goniotomy success was defined as IOP reduction of at least 20% and/or reduction in the number of IOP-lowering medications of at least one up to 12 months of follow-up.

Results: Overall, SLT was successful in 20 of 43 eyes (46.5%), of which 63.6% (7/11) had successful phaco/KDB goniotomy at 12 months follow-up. Among eyes with unsuccessful SLT, 60.0% (9/15) had successful phaco/KDB at 12 months follow-up. Phaco/KDB success rate was similar in patients regardless of their previous response to SLT at all postoperative time points up to 12 months follow-up (p = 0.87).

Conclusions: The presence or lack of IOP-lowering response to SLT did not influence the success rate of subsequent phaco/KDB goniotomy in eyes with mild to severe OAG. Patients who did not respond to SLT still benefited from phaco/KDB goniotomy at a later date.