

Commentary: Should lacrimal irrigation be routinely performed before an intraocular surgery?

Regurgitation on pressure over lacrimal sac (ROPLAS) comprises applying manual pressure directly over the lacrimal sac, which results in regurgitation of the clear or mucopurulent fluid from one or both the puncta in cases of nasolacrimal duct obstruction (NLDO). The term "ROPLAS" was popularized by Thomas *et al.*^[1] in 1997 in their landmark paper on evaluation of the role of syringing (lacrimal irrigation) prior to cataract surgery. They concluded that in the patients with complaints of watering, the sensitivity and specificity of ROPLAS in determining NLDO were 94.7% and 99.4%, respectively, whereas in those without any history of epiphora, the sensitivity and specificity were 89.5% and 99.3%, respectively. Based on their findings, the authors rightly concluded that it seemed unnecessary to perform lacrimal irrigation in each and every patient undergoing cataract surgery. Alam *et al.*^[2] observed an interesting finding in patients of NLDO, wherein the patient would himself apply pressure over the lacrimal sac to empty it for varying reasons. The authors coined another term "Self ROPLAS" for it and concluded that NLDO is almost certainly present in any patient giving a history of Self ROPLAS, although of course, it needed to be re-confirmed by the treating ophthalmologist. The aim of both these papers was to advocate a simple method that would diagnose NLDO with utmost accuracy and at the same time reduce the time burden of the ophthalmologist for performing lacrimal irrigation. Thomas *et al.*^[1] in their paper also emphasized how many hours would get wasted if an ophthalmologist performed lacrimal irrigation for each and every patient undergoing cataract surgery, considering the prevalence of cataract in India.

Kim *et al.*^[3] in their paper entitled "Regurgitation on pressure over the lacrimal sac (ROPLAS) vs. lacrimal irrigation in determining lacrimal obstruction prior to intraocular surgeries" concluded that ROPLAS has a very low sensitivity as far as the diagnosis of NLDO is concerned and each and every patient undergoing cataract surgery should be subjected to both ROPLAS and lacrimal irrigation. Although the paper is impressive with a sample size of 8000 patients, I think that the message is still not very loud and clear. Even if we consider the fact that Thomas *et al.* had included all patients who were undergoing cataract surgery and those too who underwent lacrimal irrigation for various other causes, the difference in sensitivity of ROPLAS in both the papers (54.5% vs 89.5%) seems too large to be explained. However, there is a difference in the prevalence of dacryocystitis too in both the papers (6.6% in the paper by Thomas *et al.* vs 1.35% in that by Kim *et al.*), which can be assumed because of selection bias; if the prevalence is assumed to be 1% in the paper by Thomas *et al.*, the negative predictive value would turn out to be 99.5%. In that case, only one chronic dacryocystitis would be missed in 909 cases.

Although the authors mention that the ophthalmic technician was trained enough for performing syringing, I have my own reservations regarding the person/persons performing ROPLAS. ROPLAS, if not performed in a proper manner, can be falsely negative. Second, although the authors have taken

into account the individual canalicular blocks found on lacrimal irrigation, they have not considered ruling out common canalicular blocks which will give a similar result as NLDO on irrigation and can only be ruled out if a diagnostic probing is performed. On lacrimal probing, a common canalicular block will encounter a soft stop, whereas there will be a hard stop in cases of NLDO as the probe passes beyond the common canaliculus and hits the anterior lacrimal crest. This means that a few cases of CCBs were labeled as NLDO.

Now if we consider the situations where ROPLAS is negative even if there is NLDO, these are situations with encysted mucocele, small fibrosed sac, atonic sac, and ROPLAS not performed properly or performed immediately a second time: after someone else (even the patient himself as Self ROPLAS) has performed it. If we rule out the logistic causes, an encysted mucocele is apparent enough, whereas in the case of an atonic sac, there is a history of the swelling often emptying into the nose. A small fibrosed sac is likely not to allow accumulation of fluid sufficient enough to result in ROPLAS and would for the same reason be non-infective. As pointed out by Camara *et al.*,^[4] ROPLAS would be positive only in infective cases of NLDO, meaning thereby that cases of NLDO where ROPLAS is negative are largely non-infective. Now, this may warrant a separate study.

A very famous dictum of medicine is that we treat the patient and not the disease. Why to insist on finding out NLDO when the patient does not have much watering and ROPLAS is negative? After all, it is not some sort of malignancy that if missed out can have serious re-percussions in the future. As far as endophthalmitis is concerned, even if a patient who was ROPLAS-negative but had NLDO inadvertently gets operated for cataract, the chances of developing post-operative endophthalmitis are miniscule. Thomas *et al.* mention that they had come across two cases where a cataract surgery was performed and the patient was later found out to be ROPLAS-positive 6 days and 2 weeks after surgery, respectively. Although both underwent emergency dacryocystorhinostomy, none developed endophthalmitis. I too have come across a few such cases.

Protocols are based on both the nature and burden of the disease. NLDO is not such a disease where a protocol can be forced upon each and every scenario. Personally, it seems justified as a matter of abundant precaution to carry out lacrimal irrigation in all cases in small private practice setups, in patients who are at high risk of developing infections (diabetes and immuno-compromised patients) and one-eyed cases. Hospitals which perform large-volume surgeries and have a higher out-patient load can manage well just with ROPLAS without lacrimal irrigation, provided the ophthalmology support staff and technicians are well trained in picking up signs of chronic dacryocystitis and performing ROPLAS.

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