

Unimanual upper and lower eyelid retraction for intravitreal injections

Dear Editor,

The article by Raevis *et al.*^[1] on eyelid retraction techniques for for intravitreal injections was very interesting.

I would like to share new procedure which describes a speculum-free unimanual upper and lower lid retraction for 30-G intravitreal injections.

The surge in intravitreal injections (IVIs) for retinal diseases has made it the most common surgical intervention in ophthalmology. These injections form the life line of diseases like wet macular degeneration, diabetic retinopathy and retinal vein occlusions in not just preserving vision but also improving it. These injections unfortunately need to be repeated every monthly initially and then a maintenance dosage every three monthly. The trauma of having a needle being poked into your eye is very real for most patients. Hence the need to make it as atraumatic a procedure as possible. The use of a speculum to retract the eyelids causes more discomfort to the patients due to the excessive stretch than the actual injection, which is painless under topical proparacaine drops using a 30 G needle.

I have stopped using an eye lid speculum since last 20 years as the patient tends to squeeze over the speculum and the insertion and the stretch itself is very traumatic. So in the new method I use a unimanual retraction of both the upper and lower lids with my left hand, thumb and index fingers. [Fig. 1] The thumb retracts the upper lid and simultaneously the index finger retracts the lower lid. This gives an adequate exposure of the globe and retraction of the eyelashes too. IVIs is injected in the palpebral fissure temporally in the right eye and nasally in the left eye through the pars plana [Fig. 2]. If the patient has a very severe Bells' phenomena with the eyeball rolling going upwards then in those patient I suggest injecting in the lower quadrant.

A scleral calliper of 3.5 mm is used to mark the entry point over the conjunctiva with the pressure of the calliper prongs. The degree of retraction is titrated to the amount of lid squeezing by the patient and if the lid spasm is excessive the fingers are released to allow the patient to relax and the lids are reopened gently again.

I feel only retraction of upper lid gives uncertainty to the safety of the IVIs, if the patient suddenly squeezed squeezes his lids and also the eyelashes are not clear of the surgical field. Whereas retracting both gives a sense of security to the surgeon. In all patients the lids are prepped using denatured spirit and povidone iodine with betadine drops and topical proparacaine instilled in the cul de sac. All injections are done under operating microscope in sterile operation theatre conditions.

In most patients needing IVIs we recommend a more comfortable method of unimanual upper and lower lid simultaneous retraction to improve the satisfaction of patients. The eyelid speculum may be used in individuals that squeeze heavily.



Figure 1: Left hand used for unimanual upper and lower lid retraction



Figure 2: Speculum free intravitreal injection

The interesting article by Joseph Raevis *et al.*^[1] on the Eyelid RETRACT trial proves that unilateral lid retraction was significantly more comfortable compared with the speculum method for IVIs.

During COVID-19 times all patients wear a mask with the doctor using a N 95 respirator and strictly the 'no speaking rule' is observed. The IVI procedure is completed rapidly by this technique minimising the risk of COVID19 transmission. This technique is excellent for even Ozurdex implants and antibiotics injections for endophthalmitis in experienced hands.

The unimanual lid retraction method is significantly more comfortable as compared to than eyelid speculum technique and may allow better compliance of patients with IVIs since many require multiple injections.

The comfort of patients is unbelievable as the compared with the previous traumatic experience of the stretch of the lid speculum and they ask you if the injection is actually done!

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Conflicts of interest

There are no conflicts of interest.

*Ajay I Dudani, Anadya A Dudani¹, Krish A Dudani¹,
Anupam A Dudani²*

Mumbai Retina Centre, ¹K J Somaiya Medical college and Hospital,
Mumbai, ²Hinduja Healthcare Surgical, Mumbai, India

Correspondence to: Dr. Ajay I Dudani,
Mumbai Retina Centre, 101 Kirtimanor, SV Road, Santacruz,
Mumbai - 400 054, India.
E-mail: drajay_dudani@yahoo.co.in

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