

Abstract 380

FINDING RETINAL HOLE IN RETINAL RE-DETACHMENT USING DE-TECH

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Introduction:

The goal of any retinal detachment surgery is to find the causative breaks and thereafter sealing them. This can however prove challenging at times with no identifiable break being found. There are studies which show that in 2.2% to 4% of phakic retinal detachments (RDs), no causative break can be found with a far higher percentage of occult holes being present in aphakic and pseudophakic RDs, 7% to 16% and 5% to 22.5%, respectively. The list of causes to not finding holes can be exhaustive but the most common being microholes that cannot be seen by conventional means or tears at the posterior edges of previous laser retinopexy scars. There are several approaches one can employ when dealing with cases where no causative break can be found. As a vitreoretinal surgeon, it is imperative to be aware of the Lincoff rules as these will guide one in trying to locate the causative tear. The first approach is adding a scleral buckle or an encircling band as an adjuvant to pars plana vitrectomy (PPV) in the hopes of closing any missed breaks, the risk here being a gradual decrease in buckling effect that will allow a closed hole to reopen unless properly treated with laser or cryotherapy. The second approach is performing what is known as speculative laser where one treats the area to most likely contain the causative break which as mentioned above requires sound knowledge of the Lincoff rules. There is a risk of causing excessive laser retinopexy which may it self induce retinal necrosis and complicate further identification of new tears. The third approach is using perfluorocarbon liquid (PFCL) to induce the Schlieren phenomenon allowing the thick subretinal fluid to be seen as it is extruded through the occult hole and pass the clear basic saline solution (BSS) that fills the vitreous cavity. If all the above approaches fail, there is one final approach which deserves mention as it has been a very little employed technique in the armamentarium of the vitreoretinal surgeon, namely the dye-extrusion technique (DE-TECH). (data from previous studies will be added to final presentation)

Materials and methods:

The technique in our center is as follows; prepare a diluted minimally toxic dye at a 1:9 concentration (in our case membrane blue dual). Thereafter inject PFCL on the macula to prevent posterior flow of the dye under the macula. This is followed by injection of the dye subretinally using a 38G cannula, this can be done manually with the assistance of a surgical nurse or with the aid of an automated pedal and hydraulics of the machine. The additional filling of PFCL will allow observance of Schlieren phenomenon as the dye is forced our through any occult hole. If this does not occur, performing fluid-air exchange (FAX) will most certainly force any dye out through the occult hole especially with the aid of a scleral depressor massaging the dye around. The risks with DE-TECH are as follows: toxic effects of the dye under retina, causing iatrogenic breaks as the dye is injected subretinally or choroidal bleeding.

Results:

7 patients with retinal re-detachment have been treating during a period of 12 months. 6 had a tear at the posterior edge of a previous laser retinopexy scar most likely due to excessive laser induced retinal necrosis and 1 case was due to a missed microhole. All 7 cases had a successful reattachment

and no further detachments were observed. (5 short edited surgical videos will be added to the final presentation)

Conclusions:

We have employed DE-TECH over the past years and consider it to be absolutely necessary in the armamentarium of a vitreoretinal surgeon at a low risk and with a high success rate.

Sources:

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