Editorial

Management of Retinal Detachment According to Risk Factors

Retinal detachment is a sight threatening and potentially blindening condition which if treated promptly can save and salvage good vision. On the other hand, in spite of prompt and timely surgery sometimes the visual outcome is not up to our expectations. These things pose a problem especially in our society where economics play a major role. There is very limited medical insurance for private sector and public sector is inundated with huge numbers. The number of VR surgeons is certainly insufficient to cope with the amount of patients and there is an obvious and dire need for more facilities to perform these surgeries. In this scenario we need to have some basis upon which we can build our decisions and expectations so that our system becomes more efficient with best possible results. There have been two good efforts recently in the form of studies done in Pakistan, the first one to find out about the Risk factors for developing PVR which eventually will predict the surgical outcome and the second about different presentations, their management and results. These efforts are extremely useful and give the idea of what kind of patients we are dealing with and at the same time some insight into our surgical management. They have shown for example that a retinal detachment of 1 month duration is a very significant landmark as a prognostic factor for PVR. On the other hand there are some concepts which require special attention. I would like to try and clarify some points from one of the studies which otherwise may create some confusion for others.

Some concepts of the study:

a. The study gives an impression that there could have been some confusion between the diagnosis of a dialysis and a GRT (Giant Retinal Tear). The basis of my presumption is the fact that in their study all the dialysis had PVR which had developed within two weeks, they were dealt in by vitrectomy and they all had bad visual outcome. Why? This compels us to look more carefully into the situation.
b. Second is a concept of leaving the oil in permanently. Some believe that as silicone oil has not shown any problem for 6 months (period of their follow-up) therefore it will never do so in the future and can be left safely in the eye indefinitely.
c. It was also stated that patients develop cataract in a GRT.
d. There were genuine concerns about anterior PVR which became a major factor resulting in failure of surgery, without any possible solution.
e. One very interesting comment about their technique was that cryo was applied in 2 rows only posterior to the breaks.
f. It has been quoted that Silicone oil has better retinal attachment rate than SF6.

The visual results in our local study are not up to the mark, so we will have to look into it in detail to see whether the results were as expected or not. The dialysis which were treated; were either not dialysis but GRTs or if they were dialysis then the surgical management should have been different. Dialysis is usually (not always) a result of blunt ocular trauma where by the peripheral retina is torn or avulsed at the edge. There is a roof of vitreous base over the defect therefore, much less RPE cells will trickle over into the vitreous cavity resulting in much less PVR. That is why the procedure of choice for a dialysis is Cryo / Buckle and/or drain. Best form of external temponade is a sponge for a dialysis but then personal preferences are justified. We know that if we do a vitrectomy on a dialysis then there is a danger of it being converted to a GRT along with all the sequelae.

As for the duration of silicone oil (SO), the reality is that oil seldom causes any problem before 6 months.

1000 to 1300 CST SO is supposed to last about 6 to 8 months after which it is usually removed; whereas, the 5000 CST is usually good for over 5 years. Variations are always there. We are aware of the controversy about silicone oil being toxic to the retina at times, therefore where ever possible it should be removed. However, there will be cases where we have to leave it for as long as possible. Cataract which is seen after a GRT is usually because of the surgery and silicone oil. One belief is that oil will provide better temponade than the gas but the basis of this has been doubtful as gas was not tried at all in their study. It is the opinion of many authorities that gas can provide better temponade; it's the reduction of size rate versus longevity of oil which makes the difference. The relative advantages of the oil include clear media in the post operative period which can help an only eye patient to cope and the surgeon to perform laser in some situations. It can also provide long term temponade. Where as gas does not require a separate procedure for removal and cause less cataracts. Indeed, we see a predominant trend here towards not using the intravitreal gases with vitrectomy as compared to the developed world. Superior breaks can easily be covered with gas (SF6 or C2F6) even without any external support. In case of inferior break also; gases like C3F8 can be sufficient but usually with external temponade and proper post-op posturing. One very important message that I would like to pass here is about cryo. It should cover all the edges, as fluid can go around from anterior side. As rightly stressed by the author we should not freeze the exposed base in the middle of the hole as it can release RPE cells and cause PVR. We also have to be careful not to apply cryo twice at one spot as it can later cause necrosis and breaks. The freeze ball should only come to the edge of the break.

Books have taught us how far back to place our encircling bands and we may modify it according to our needs. We know that the purpose of a 360 degree band is not to cover the holes but to support the vitreous base and can also be used to counteract the PVR forces. When placed posteriorly these bands produce a barrage between the anterior and posterior retina so that the posterior retina stays relaxed and flat. But, when we encounter anterior PVR our placement of band should be anteriorly to counter act that force.

Inferior PVR and later tractional redetachments have haunted our surgeons for quite some time. Once developed, it has to be countered by inferior relaxing retinotomies or even retinectomy, but liquids like heavy silicone can also help avoid these problems. However, the cost of this is higher and it has to be removed within 3 months. Second option is 360 degree band or inferior high external temponade along with silicone oil and proper post-operative posturing. Trauma and penetrating injury causes high level of PVR therefore, it is useful to consider anti proliferative agents like intravitreal triamcinolone and infusions containing heparin and 5FU to flush the vitreous cavity, just like in a macular translocation surgery.

The responsibility lies with us ophthalmologists who are doing or are interested in doing retinal surgery to get as much training as possible in this field and to keep up to date with the newer developments to perform safe surgery. We should also try to follow basic rules laid down by the pioneers to deal with cases according to their risk factors. One such basic rule in the treatment of retinal detachment is, "Do it from the outside as far as possible". The common exceptions are: Most aphakic and pseudophakic detachments, PVR with tightening, too far posterior multiple breaks etc. One of the most important factors in deciding whether to do an external procedure or a vitrectomy is presence or absence of a PVD (Posterior vitreous detachment). And remember one thing, "PVR is often a result of failed surgery rather than a cause for it".

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