Original article

Managing Different Levels of Retinal Haemorrhages

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Abstract:

Introduction: Purpose of this study is to outline the management of different levels of retinal hemorrhages.

Material and Methods: 30 cases with different levels of retinal hemorrhages were studied. Pre op detailed anterior and posterior examination was done. FFA & OCT was done in all cases. FF & OCT was done on subsequent visits. All cases were investigated for the cause and managed accordingly.

sual outcome.

Keywords: retinal haemorrhage, vitrectomy, laser photocoagulation

Introduction:

A retinal haemorrhage occurs when abnormal bleeding occurs within the blood vessels of the retina. A retinal haemorrhage can be caused by either disease or an injury and can result in a permanent or temporary loss of visual acuity. Even the smallest injury to the blood vessels of the retina can result in vision problems because these blood vessels are very sensitive and dense. Certain diseases that affect a person's circulatory system can cause a retinal haemorrhage and some of these diseases include high blood pressure (hypertension), diabetes, severe anaemia, retinal macroaneurysm, chorioretinal neovascular membrane in age related macular degeneration and myopia, central retinal venous occlusion, valsalva retinopathy, and blunt trauma, head injury,terson's syndrome[1,2,3,4,5,6,7]

Material and Methods:

30 patients presented to us with different levels of retinal haemorrhages with variable etiologies.Of these 30 cases, 5cases presented with vitreous haemorrhage secondary to diabetes mellitus,14 with subhyaloid haemorrhage from which 3 were secondary to diabetes,8 due to severe anaemia, and 3 presented with old subhyaloid haemorrhage due to tersons's syndrome.5 cases had chorioretinal neovascularisation (CNVM),4 cases had blunt trauma and 2 had sub retinal and sub retinal pigment haemorrhage in retinal macroanaeurysm.The study was done over a period of 2 years.

Results:

30 patients who are presented with retinal haemorrhages due to different etiologies and different levels of haemorrhages underwent different modes of treatment(table 1). 5 cases which presented with vitreous haemorrhage secondary to diabetes mellitus B scan was done to rule out Tractional retinal detachment/Combined Retinal detachment, had Visual acquity (V.A) of counting finger (c.f) at presentation. First an intravitreal avastin (IVA)

was given and after 2 weeks V.A improved to 6/60in 3cases, in those laser was done. 2 patients underwent 23 G pars plana vitrectomy due to recurrent vitreous haemorrhage in that V.A was further improved to 6/12. (fig.1, 2, 3)

In 14 cases that had subhyaloid haemorrhage from which 3 was secondary to diabetes mellitus VA was C.F at presentation, IVA was given and after 3-4 days patient underwent 23G pars plana vitrectomy and vision recovered to 6/9.(fig.4,5)

8 cases had subhyaloid haemorrhage secondary to severe anaemia from which 5 cases had Hb 4 gms and V.A. was 6/18 .In these patients blood transfusion and medical treatment was given Hb came to 9gms and visual recovery was 6/9 on day 10(fig.6,7). And 3 cases with large haemorrhage argon laser hyaloidotomy were done and gradually blood dispersed into vitreous cavity and with the time it resolved .3 cases with old subhyaloid haemorrhage did not responded to argon laser hyaloidotomy, so in those patients 23G vitrectomy was done.

2 cases had subretinal and sub RPE haemorrhage due to retinal macroaneurysm, VA was C.F at presentation, in these cases intravitreal pneumatic displacement of haemorrhage was done with air/ c3f8 (0.3 ml pure or diluted)and after 2 weeks V.A was 6/18. (fig.8, 9)

5 cases who had CNVM secondary to ARMD and myopia, IVA was given, minimum 3 injection were given at 1 month interval and V.A improved in all cases.

4 cases with sub retinal haemorrhage and with pre retinal bleed due to blunt trauma we preferred to wait for 2 weeks as sometimes there is spontaneous resorption of haemorrhage. In our series, 2 cases spontanously resolved and in 2 we did vitrectomy. (fig.10)

Discussion:

Spontaneous reabsorption of the haemorrhage may occur, but this could take 1–2 months,[6,,8,9,10,11] during which time the persistence of blood may irreversibly damage the retina and cause permanent visual loss as a result of the formation of preretinal tractional membrane and photoceptor damage due to ferrous /ferric ions liberated from dehaemoglobanized blood.[4,12] The toxic effects of longstanding haemorrhage are even more destructive in macular than in subhyaloidal haemorrhage,[2,11] and haemorrhage beneath the ILM tends to remain longer than subhyaloid haemorrhage.

Laser drainage, introduced in 1973 by Heydenreich[6] and Fechner,[13] gives the entrapped blood a focal opening into the vitreous cavity to accelerate clearing and visual improvement.[2,4,5,6,7,13,14,15] Synonyms are laser membranotomy and laser puncturing. Kroll and Busse[4] recommend this treatment within the first 3–4 days after the occurrence of haemorrhage. Serious complications of this procedure have rarely been reported (macular hole formation and retinal detachment).

Recombinant tissue plasminogen activator and gas are routinely used in the treatment of submacular haemorrhage secondary to age-related macular degeneration, IPCV.[16,17] The same technique, resulting in separation of the vitreous and the promotion of the distribution of blood, was used successfully to treat subhyaloidal or macular haemorrhage.[18,19]

Vitrectomy allows the immediate removal of the haemorrhage and analysis of the surgically removed anterior wall of the haemorrhage cavity, as well as definitive location of the haemorrhage.[1,20,21,22] De Maeyer *et al*[23] treated five patients by vitrectomy after insufficient spontaneous visual recovery, and identified the sub-ILM location of the haemorrhage intraoperatively in all patients by ILM biostaining. Excellent visual recovery occurred in all patients without any procedure-related complications. Timely surgical removal of the vitreous haemorrhage has the advantage of significant and immediate improvement of vision, and may also

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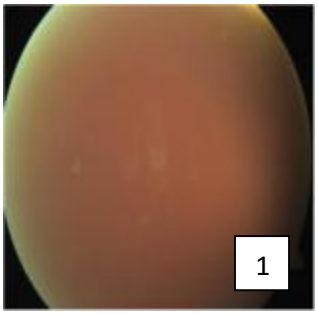
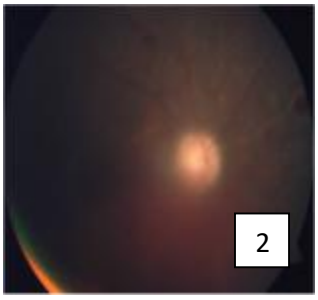
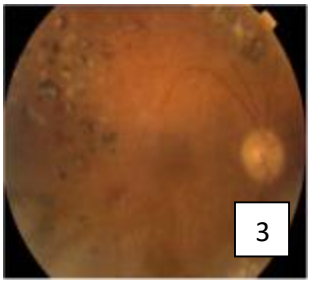
prevent complications of longstanding haemorrhage. However, vitrectomy, despite being a routine procedure, also has numerous risks and side effects. Formation of a nuclear sclerotic cataract is a well-known and relatively common complication.

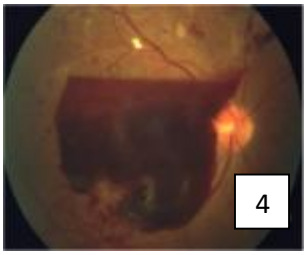
Conclusion:

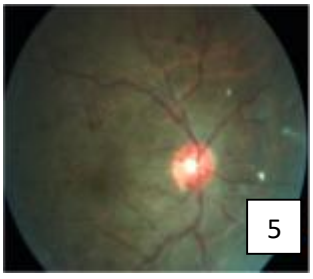
Correct identification and classification of the haemorrhage is important to determine appropriate management. Early management results in good visual outcome.











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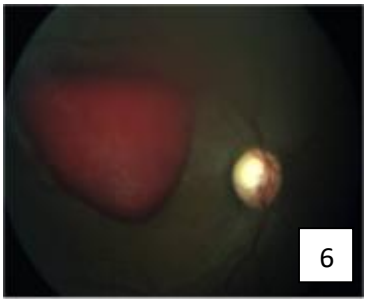

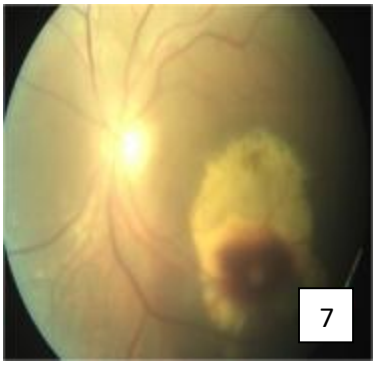

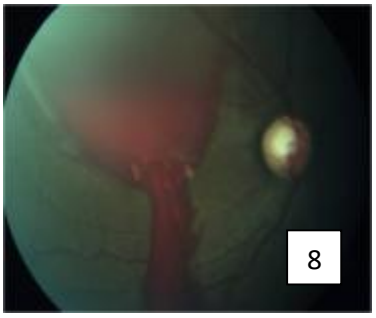

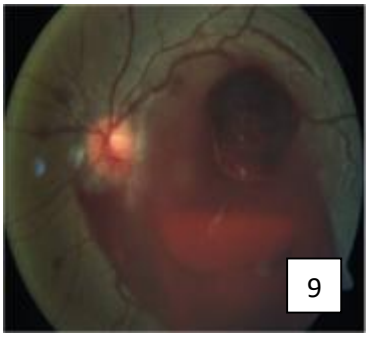

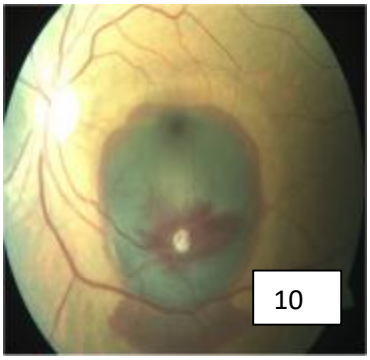

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