Case study

HYPHEMAPOSTINTRAVITREAL INJECTION OF BEVACIZUMAB

ABSTRACT

This study is a descriptionofacaseoftotalhyphema afterintravitrealinjectionofBevacizumab. A54-year-oldpatientwithexudativeage-relatedmaculardegenerationwasadmitted for injection of Bevacizumab. The injection was performed after a normal clinical examination.Theimmediateevolutionwasmarkedbyatotalhyphemawithcomplete disappearance after ten days

INTRODUCTION

Age-relatedmaculardegeneration(AMD)isablindingpathology,representingtheleading cause of legal blindness after the age of 50.1 Treatment in its exudative form relies on intravitrealanti-VEGFinjectionsofBevacizumaborRanibizumab.Intravitrealinjectionscan lead to ocular complications. In the literature, complications such as endophthalmitis, retinal detachment and cataract have been described, but these are complications of the injection itselfandnotproduct-related.Ocularinflammatoryreactionshavebeendocumented following injections of Ranibizumab and Bevacizumab, and published reports have documentedcasesofocularhypertension,vitreoushemorrhage,centralretinalartery occlusionandretinalischemia2-3.Allthese complicationsoccurataratefoflessthan0.1%.

Hyphemahasbeenreportedonlyonceasacomplicationofintravitrealinjectionsofanti- VGEF Ranibizumab or Bevacizumab 4.

CASE PRESENTATION

Patientaged52,withnopreviouspathologicalhistoryorspecificongoingtreatments, followed for exudativeAMD of the right eye. Referred for intravitreal injection (first injection) of Bevacizumab.

Visualacuitygraded2/10.

Adnexalexaminationwasunremarkable:noinflammatorysigns.Examinationoftheanterior segmentwasunremarkable,withaclearcornea,ananteriorchamberofgooddepth,optically empty, and an iris of good trophicity and coloration. Grade I nuclear cataract lens examination.Fundusexaminationshowedpoormacularreflex,whiletherestoftheretinawas unremarkable.

Inviewofthenormalpre-injectionexamination,intravitrealinjectionofBevacizumabwas performed approximately 4 mm from the sclero-corneal limbus in the supra-temporal quadrant,usinga30-gaugeneedle.

Theinjectionwasperformedunderstrictaseptic conditions.

Theimmediateaftermathoftheinjectionwasmarkedbytheformationofahyphemawhich rapidly evolved into a total hyphema.

AB-modeultrasoundscan(figure1)carriedoutwithinthehourshowedananechoicvitreous and two parallel hyperechoic lines showing the needle's path through the vitreous.

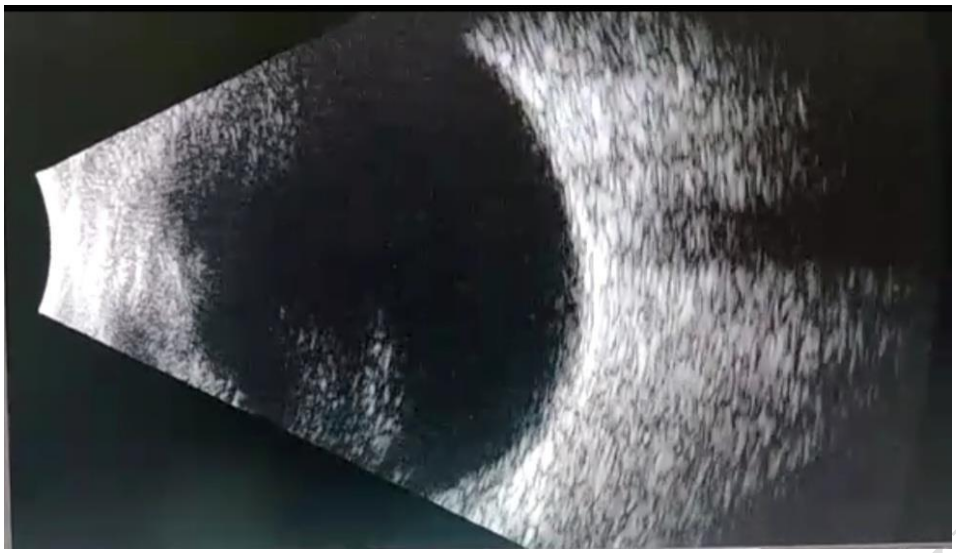


Figure1:B-modeultrasound

Post-injectioncareconsistedofantibiotic/corticoideyedrops,restandplentytodrink.

Theevolutionwasmarkedat48hoursbyaregressionofthehyphema,and aftertendaysbya total disappearance of the hyphema with restoration of the initial visual acuity and a strictly normalclinical examination.

DISCUSSION

Age-relatedmaculardegenerationistheleadingcauseofblindnessintheelderlyindeveloped countries 5. Two types are described in the literature: exudative and atrophic.Anti-VEGF injectionshaverevolutionizedthemanagementof exudativeAMD.Althoughintravitreal injectionshaveimproved theprognosisofAMD,theycanbeasourceofcomplications,some of which are often serious. These complications are rare, around 0.1%, and include endophthalmitis, retinal detachment, intravitreal bleeding, occlusion of the central retinal arteryandocularhypertonia2-6.Hyphemaafterintravitrealinjectionwasfirstdescribedin theliteraturein2011byUsharM.Ranchod. Inaseriesof26,184intravitrealinjections(IVT) over a two-year period (18,804 with Ranibizumab and 7,380 with Bevacizumab), only three cases of hyphemia after IVTwere found 4.This is a veryrare complication, which can occur evenwhentheprinciplesofinjectionarerespected.Injectionisperformedunderstrictaseptic conditions, 3.5 mm from the sclero-corneal limbus for pseudophakic patients and 4 mm for phakicpatients,asinthispatient3(figure2).

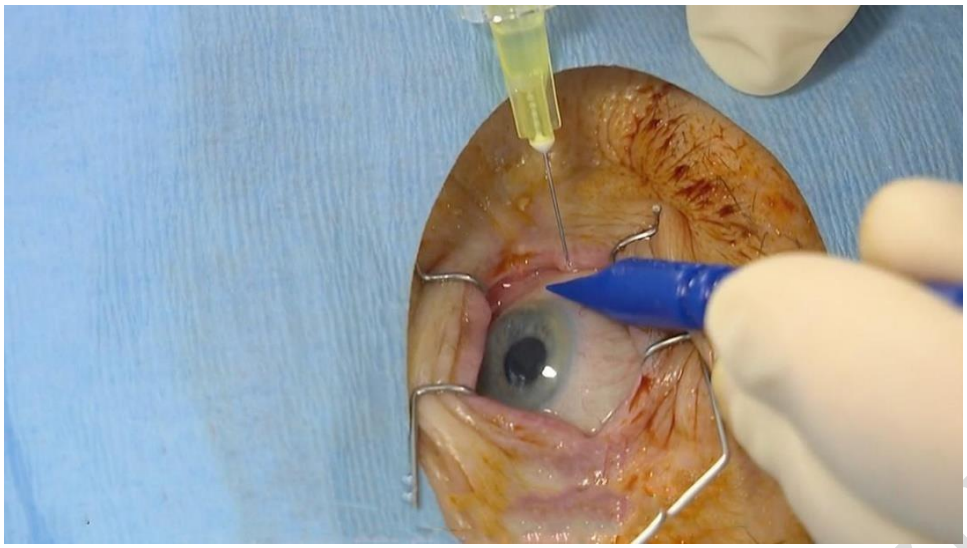
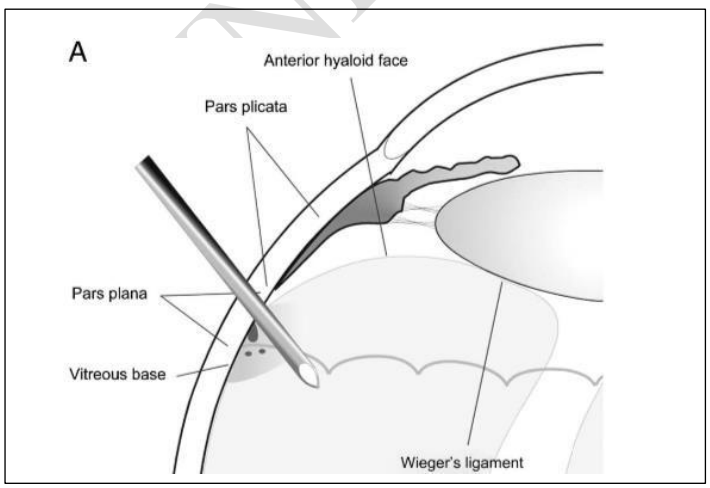


Figure2: Intravitrealinjectionsession(*Allodocteurs-maladies-DMLA*)

According to the literature, the origin of hyphema is bleeding from the pars plicata, the anteriorparsplana,ortheposteriorpartoftheciliarybody. Itisthereforeableedfollowingan injection located further anteriorly than expected, or even in the presence of defective anatomy4.Unlikepost-injectionintravitrealbleeding,inhyphemiatheneedlepathislocated atadistancefromthebaseofthevitreous7.Bloodthenpassesfromtheposteriorchamberto the anterior chamber, filling it progressively according to its intensity (figure 3). In the three cases described in the literature, the hyphema was asymptomatic and disappeared spontaneouslyaftertendays4. InTHIScase,thehyphemawastotal,andthepatient'svision was reduced to a luminous perception. Then, after ten days, the hyphema disappeared completely,andvisualacuityreturnedto02/10asbefore.



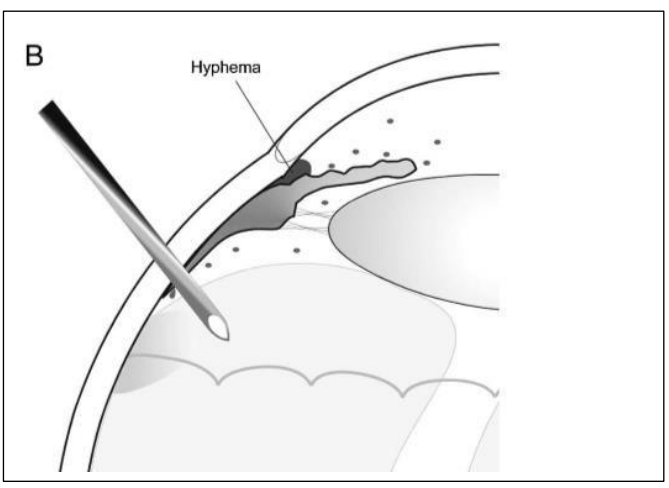


Figure3:

A-Intravitrealinjectionwithbleedingfromtheneedleinthevitreous base.

B-Anteriorintravitrealinjectionwithbleedingfromtheneedleintotheanteriorchamber (*RETINAL CASES & BRIEF REPORTS' 2011 VOLUME 5 NUMBER 1*)

CONCLUSION

Hyphemaafteranti-VEGFinjectionisanexceptionalcomplicationwithagoodprognosis underproperrehydration.Abetterunderstandingofthiscomplicationwouldenablepatientsto be better informed beforehand, and better managed when it occurs.

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