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OCULAR COMPLICATIONS IN FOLLOWING INJECTION OF INTRAVITREAL LUCENTIS (RANIBIZUMAB) WITH RETINOPATHY PROLIFERATIVE DIABETIC

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ABSTRACT

Studyaimwas to determinepatient's ocular complications in following injection of intravitrealLucentis(Ranibizumab) with retinopathy proliferative diabetic.InDr. Saif eye center,the study was performed. One hundred and twenty patients were participatedof age ranging from 30-70 years. After injection,eight patientswith sub-conjunctival hemorrhagewerespontaneously resolved within a week. Five patients had slight elevation in pressure of intra ocular; the mean IOP was 27 mmHg that decrease gradually within eight days.Three patients had post-operative endophthalmitiswhichwell-respond to injections of intravitreal antibiotic (Ceftazedime&vancomycine). Three patients complain regardingocular pain of post-operative which well-respond to panadol extra. Sterile uveitis occurs in two patients that well-responds to topical steroids. One patient was withhemorrhage occurring wherenooccurringas retinal detachment.Generally,itcan be concluded that injection intravitreal (Lucentis) is safe with lowrisks, when we pay a good attention tosurgical procedure, technique and sterilization.

Keywords: *Intravitreal injection, Lucentis (Ranibizumab), Diabetes, Proliferative retinopathy*

INTRODUCTION

Retinopathy of diabetic considered as micro-angiopathypredominantwhere vessels as small blood, especially damage vulnerable from hyperglycaemia(Otani, 2002).Hyperglycemia as direct whichinfluences alsoretinal cells ismore likely to have a role.(Enseleit, 2008)Neovascularization is attributed to capillary non perfusion thatcauses retinal hypoxia that mightdevelops to neovascularization extend pre-retinally (pdr)(Ferrara, 2003). Intra-retinal abnormalities as microvascular are shunts which run from arterioles to veinuleswithin the retina.Growth of new vessels is suggested to be caused via imbalancebetween the anti-angiogenic and angiogenicelaboration factors,putatively as an attempt forhypoxic retina vascularization(Parisi, 2009).Variousstimulators as angiogenic have been detected,growth factor of vascular endothelial,particularly VEGF-A seems to be of specialsignificance,others includinghepatocyte and platelet derived growth factors(Spitzer, 2007).In similar manner; manyangiogenesis endogenous inhibitors also have been stated i.e.angiostatin,endostatin, andepithelium pigment derived factor (Reis, 2017).Net balance between

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endostatin and VEGF has been proposed as key determinant of the retinopathy activity.(Marano, 2005)(Shiraya, 2006)The anti VEGF principle is to block the cytokine VEGF-A form interacting along relevant receptors on the cells surface of endothelial and so neovascularization reversing or retarding.(Vo Kim, 2017)Lucentis (Ranibizumab injection) considered as a recombinant humanized IgG1 kappa isotope monoclonal antibody fragment designed for intraocular use. Ranibizumab links to and prevents the human vascular biologic activity as endothelial growth factor A (VEGF-A)(Patel, 2012)

MATERIAL AND METHODS

In 2018, ateye center ofDr. Saif, the study was carried out whereone hundred and twenty patients were participated aging(30-70)years with proliferative diabetic retinopathy. Patientswere preoperatively received preoperative medications for three days includingmoxifloxacine(vigamox) threeeye drops/hour for three days andpreoperatively,ciprofloxacin tablet 750 mg once a day for three days. Prior topatient's entry tohospitaloperative theater, patients wash their faces seven times usingsoap and water,especialyDettol soap. After thatpatient'sfacespainted with 10% iodine and iodine of5%was applied to the ocular surface and conjunctival sac. Moxifloxacineas Vigamox eye and Alcon as Terttracaine eye dropswere applied following every step. Lucentisinjection occurredat operative theater byapplying a sterile drupe, a sterile speculum the patient was instructed to look up and nasally to give infero-temporally the injection. Thirty gauge needle of insulin syringe was utilized after injection vigamox eye drop was installed in the conjunctival sac.Medications as Post-operativeincluding: hourly eye drop of Vigamox, 1X3 and Dorzopic plus eye drop 1X2, hourly two eye dropsof Tohradex, 250 mg Diamox (Acetozolamide 250 mg), Bactiflox tab 750mg (once daily), andSuprax 400 mg (once daily). The patient must not wash face with water for about five days. The patient should observe next day, one week and monthly for 6 monthsfollowing operation.

RESULTS

Table (1):Ocular complications in following injection of intravitrealLucentis (Ranibizumab) with retinopathy proliferative diabetic

Complications	Patients number
Sub-conjunctival hemorrhage	8
Slight increase in IOP	5
Post-operative endophthalmitis	3
Post-operative ocular pain	3
Sterile uveitis	2
Vitreous hemorrhage	1
Retinal detachment	0

A table (1) show that injected cases follow up demonstrates that eight patients had sub-conjunctival hemorrhage which spontaneously was resolved within one week. Five patientswith slight elevation in their intra ocular pressure at mean of IOP were 27 mmHg whichdecrease gradually within eight days.Three patients had post-operative endophthalmitiswhichwell-respond to injections of intravitreal antibiotic (vancomycineand ceftazedime). Three patients with post-operative ocular pain complain which to panadol extra. Two patientsencountered sterile uveitis whowell-respond to topical steroids. One patient had hemorrhage.No retinal detachment occurs.

DISCUSSION

Since2004, various Anti-VEGF were applied for ophthalmic utilize,while injection of Lucentis(Ranibizumab)nowadayshas different indications as; neovascular degeneration, macular related to age,macular edema following retinal vein occlusion, edema of diabetic macular, retinopathy of proliferativeand non proliferative diabetic in patients with neovascularization as myopic choroidal and diabetic macular edema(Spitzer, 2007)(Shiraya, 2006).Thus,the currentfocuses on complications of post-operative ocular more than side effects as systemic.Complicationsare self-limiting and simple despite there wereendophthalmitisthree cases.Suchis an acceptable risk routinely to patients explained prior injection.*Endophthalmitis*two patient'swell-responded to injection of intravitrealantibiotic. We think that Lucentisin respect to its less side effects as systemic and availability in Iraq;is corner-stones consideration in proliferative diabetic retinopathy when compared with other anti-VEGF.

CONCLUSION

Generally, injection of Ranibizumabas IntravitrealLucentis is available, safe,with minimal risksand less side effects assystemic. However, we shouldpay attention in respect to regarding preparation as preoperative, technique of sterilization,medication ofpost-operativeand surgical procedure.

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