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A Possible case of complete loss of Vision after Intra Ocular Administration of Bevacizumab: Case Report

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ABSTRACT

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This is a case report focusing on a 62 years male patient who experienced complete loss of vision after the intra ocular administration of known strength of Bevacizumab. Bevacizumab is the choice of drug in the treatment of metastatic colorectal cancer, breast cancer, malignant mesothelioma, prostate cancer, age related macular degenerative and other ophthalmic diseases. But in this case Bevacizumab has developed severe adverse drug reaction which resulted in complete loss of vision. Naranjo's causality assessment algorithm was used to assess the adverse effect and it indicated Bevacizumab as probable cause of loss of vision.

Keywords: Bevacizumab, Vision loss, VEGF (*Vascular Endothelial Growth Factor*) Inhibitor, Monoclonal antibody.

BACKGROUND

A 62 year old patient visited dental clinic with periodontitis. His medical history revealed that the person was suffering from diabetes for past 21 years which helped in the careful approach towards the condition of the patient. During the interview it was clearly noticed that the patient was not able to see clearly which further triggered the interest to study the case in depth. After noticing all the important points of the case DIC (Drug Information Center) of Raghavendra Institute of Pharmaceutical Education and Research (RIPER), Anantapur was approached and the working pharmacists of RIPER helped throughout the study and a conclusion was made regarding drug usage and causality assessment using Naranjo's scale for identification of ADR.

INTRODUCTION

It is true that cornea is devoid of blood vessels whereas, retina and choroid regions of eye are the regions where there is rich supply of blood vessels. Bevacizumab is humanized anti-VEGF monoclonal antibody acts by inhibiting VEGF which hinders the growth of neovasculature.[1] It is predominantly used in the treatment of colorectal cancer, breast and lung cancer.[2] It's off label use includes intravitreal administration to treat age related macular degeneration.[3,4] This report summarizes the development of edema, pain, increase in body temperature and loss of vision after the administration of Bevacizumab.

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CASE REPORT:

A 62 year male patient weighing 62 kg consulted an ophthalmologist at Adoni, Kurnool district of Andhra Pradesh with chief complaint of,

- Mild discoloration (Reddish) in left eye with slight improper vision
- Normal functioning of right eye

On examination the past medical history revealed that the patient was suffering from

- Diabetes mellitus for past 21 year.
- Hypertension for past 15 year.

And the past medication history of the patient was on

- Oral hypoglycemic

Metformin & glibenclamide -500mg & 80mg.

Pioglitazone -15mg

Human mixtard insulin 30\70 -40 IU

- Antihypertensive, hypolipidemia, neuronal analgesic

Tab. Enalapril maleate -5mg

Tab. Atorvastatin -5mg

Cap. Pregabalin -75mg

After studying the patient's medical history, the patient was asked to go for hematological & biochemical investigations along with final eye impression. Results of the tests revealed that all the hematological and biochemical parameters were normal except fasting blood sugar, post-parandial blood sugar

(181mg/dl) and glycosylated haemoglobin (9.3) with urine showing positive test for the presence of sugar.

Eye impression:

Both eye	- NS –II Cataract
Both eye	- Proliferative diabetes retinopathy
Right eye	- Traction retinal detachment
Left eye	- Vitreous hemorrhage

After one week of diagnosis the patient was asked to visit the hospital and was administered with unknown strength of Bevacizumab through intra ocular route to left eye followed by right eye on the next day subsequently. After Bevacizumab administration, the following drugs were prescribed, Tab ciprofloxacin 500mg, Tab ibuprofen 200mg, Dropstimolol + dorzolamine (2 %/ 0.5%)(6 times per day), Inj. cefotaxime 500 mg.

Soon after injecting Bevacizumab, the very next morning swelling and complete loss of vision in the right eye and partial loss of vision in left eye was experienced by the patient.

DISCUSSION

In this case, Diabetic retinopathy was diagnosed and treated on the basis of lab impression of angiography of both eyes which remained the main key for the diagnosis of the said medical condition. The patient was treated with Bevacizumab considering as the drug of choice.[1] But, increase in intra ocular pressure, ocular bleeding and complete loss of vision in the right eye and partial loss of vision in the left eye, increased body temperature, dizziness, was experienced by the patient. Dizziness, increased body temperature, were reported as side effects of Bevacizumab when used in the treatment of metastatic colorectal cancer.[1,2] Even though, the drug was approved by FDA it was not approved for the use completely by NICE (National Institute for Health and Clinical Excellence).[5] A Black box warning was also issued against the usage of the drug in hemorrhagic patients.[6] However, there is no concrete solid evidence available for the off–label use of Bevacizumab for the treatment of ocular disorders. Taking all the information under consideration, a causality assessment of the entitled medical condition was done by using Naranjo Causality Assessment Algorithm[7] and the results indicated Bevacizumab as possible cause of complete loss of vision in the right eye and partial loss of vision in the left eye with Naranjo score of 4.

CONCLUSION

This case report accounts for the collection of complete data of patient's history such as past medical and medication history, hypersensitivity, current clinical data etc before initiating any treatment. Also monitoring, identifying, reporting and management of Adverse Drug Reactions are also necessary in order to avoid such type of severe lifelong events.

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