ASIAN JOURNAL OF PHARMACEUTICAL AND CLINICAL RESEARCH

INNOVARE ACADEMIC SCIENCES
Knowledge to Innovation

Vol 7, Issue 3, 2014

ISSN - 0974-2441

Case Study

CASE REPORT VOGLIBOSE INDUCED- SEVERE DIZZINESS

RAVINANDAN A.P[1*], ACHSAH ROSE VARGHESE[2], RAIBY SARA BIJI[2], JIMMY O.D[3], SUSHIL L[3]

[1]Research Scholar, JJTU University, Jhunjhunu-333001, Rajasthan, India. [2]Fifth Pharm D, Bapuji Pharmacy College, S.S. Layout, Davangere-577004, India, [3]Lecturer, Department of Pharmacy Practice, Bapuji Pharmacy College, S.S. Layout, Davangere-577004, India
E-mail: ravinandanap@gmail.com

Received: 30 April 2014, Revised and Accepted: 17 May 2014

ABSTRACT

A 75 years - old - ambulatory male patient suffering from type 2 diabetes mellitus was administering 0.3mg Voglibose tablet 2 times a day, due to which he developed severe dizziness. For this reason the physician discontinued voglibose. But symptoms persisted even after de-challenge of voglibose.

Key words: Ambulatory, type 2 diabetes mellitus, voglibose, severe dizziness

INTRODUCTION

Voglibose was discovered in Japan in the year of 1981, after its isolation from Streptomyces hygroscopicies var.limonons.[1] It is chemically 4(+)-V[1(OH),2,4,5/3]-5-[2-hydroxy-1-(hydroxymethyl)ethyl]amino-1-C-(hydroxymethyl)-1,2,3,4-cyclohexanetetral and has a structural relation with other natural carbohydrates. Voglibose is a potent alpha glucosidase inhibitor used in the treatment of type 2 diabetes mellitus; it delays glucose absorption and thus reduces the post-prandial blood glucose level. [2]

Voglibose is an alpha-glucosidase inhibitor which inhibits the activity of maltase and sucrase in the brush border of the small intestine. These actions reduce postprandial rise in blood glucose in diabetic patients. Voglibose may also facilitate mobilization of endogenous glucagon-like peptide-1, an effect which could contribute to the lowering of fasting blood glucose levels observed in diabetic treatment. It is poorly absorbed after oral administration. [3]

During the course of Voglibose some adverse drug reactions were observed commonly as hypoglycemia, diarrhea, flatulence, bloating and abdominal fullness. [4]

CASE REPORT

A 75 year old ambulatory male patient at the age of 62 was diagnosed with type 2 diabetes mellitus. Initially he was prescribed with combination of 500 mg Metformin hydrochloride and 5 mg Glibenclamide (Diabetrol). During this treatment his blood sugar was not under control, hence voglibose was prescribed at the age of 74 in the year of 2013 August 30 and discontinued on 2014 January 29 due to complaint of severe dizziness. He received 0.3 mg of voglibose twice a day that is in the morning and at night after food. He had undergone an eye surgery for both eyes due to cataract in the year of 2013.

The patient and his daughter -in- law informed that he got severe dizziness during the treatment period with voglibose. Onset of dizziness is 10 minutes after the intake of the drug and especially more while walking. Physician suspected this adverse drug reaction is due to voglibose and advised him to discontinue. Later, informed him to take betahistine dihydrochloride (Vertin 8mg), for symptomatic management of this suspected adverse drug reaction. Still, the patient is complaining of the severe dizziness. Patient informed that he underwent Magnetic Resonance Imaging scan of head and no abnormalities were detected.

DISCUSSION

Defects in the action or secretion of insulin, or both, are the two main abnormalities leading to the development of type 2 diabetes. Any intervention that reduces insulin resistance or protects the pancreatic beta cells could help to prevent or delay the progression of the disease. [5]

Drug induced dizziness can occur mainly due to three mechanisms. Firstly, it may be due to toxicity to the audio sensory system, or it can be due to inhibitory effects on the central nervous system (CNS) and circulatory disturbances in the CNS. It is also unlikely that the symptoms were associated with an inhibitory effect on the central nervous system induced by hypoglycemia, since the blood glucose levels during the symptomatic period were clearly hyperglycemic ranging between 210-320 mg/dl. [6]

A case report by Bando Y, Ushiogi Y,Toya D, et al. has described that voglibose(0.1 and 0.2mg) induced dizziness relieved after its discontinuation. But it is observed in our study the patient is still having dizziness even after the discontinuation of 0.3 mg voglibose tablet.

Here, in our case report, patient is having severe dizziness even after the voglibose was discontinued. The predisposing factor is found to be age. The reaction was analyzed by using various causality assessment scales. According to WHO causality assessment scale the reaction was categorized under 'possible' and according to Naranjo's scale it found to be 'probable'. And required lifelong treatment and leads to diminished quality of life.

According to available literature and our findings, this is the first kind of report for voglibose induced severe dizziness in India for the dose of 0.3mg. For future, this case report may act as signal generation in India.

In conclusion, the pathogenesis of this adverse drug reaction was not clearly elucidated. However, voglibose is used worldwide for its various metabolic benefits. Because of serious adverse drug reactions reported during use of voglibose it must be cautiously administered. Therefore, it is important to create awareness and alerts among health care professionals on possibilities of voglibose induced severe dizziness.

Acknowledgements: The authors, sincerely thanks Dr.A.P Basavarajappa, Principal, Bapuji Pharmacy College for his constant support and encouragement. We also express our thanks to Mr. Achutha V. and Miss Manasa T. for their kind co- operation. And special thanks to patient for allowing us to collect necessary data.

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