Mirtazapine Induced Bipedal Edema: A Case Report

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ARTICLE INFO
Article History
Submitted: 25November, 2021
Accepted: 16 December 2021
Published: 8 February, 2022

Source of support: None
Conflict of Interest: None

ABSTRACT

Mirtazapine is a commonly used antidepressant which works via alpha-2 adrenergic antagonism to enhance noradrenergic and serotonergic neurotransmission. There is only dearth of literature to suggest the link between mirtazapine use and development of peripheral edema. With this article, we aim to discuss the probability of peripheral edema during the treatment course of mirtazapine. This is among the handful of cases reported describing the probability of peripheral edema due to mirtazapine. Thus, it will be of utmost use to the prescribing physician.

Key Words : Mirtazapine; Peripheral Edema; Side effect

INTRODUCTION

Mirtazapine is a novel antidepressant which is used for the treatment of major depression. It exhibits both noradrenergic and serotonergic activity.[1] As it also has H1 antihistaminic action, it is thought to relieve insomnia.[2] Studies have shown mirtazapine to have outstanding safety profile.[3] Common adverse effects of mirtazapine are increased appetite, weight gain, dry mouth, drowsiness and constipation.[2,4,5,6] There are only few reported cases of peripheral edema. The mechanism by which mirtazapine causes peripheral edema is not clearly known. Therefore, we hope to notify the concerned physicians about its probability by presenting a case of bilateral lower limb pitting edema associated with mirtazapine treatment.

CASE REPORT

A 40yrs old male presented to the psychiatry outpatient department with complaints of feeling anxious, having negative thoughts and difficulty initiating sleep for 1 month duration. He was started on mirtazapine 7.5mg after which, his symptoms gradually improved. However, 2 months into the treatment, the patient complained of swelling of bilateral lower limbs. On examination, bilateral pitting edema was evident from pre-tibial region to the foot. Routine blood investigations that included hematology, blood glucose, thyroid, liver and renal functions were normal. Venous doppler of bilateral lower limbs were also done which yielded no pathology.

Therefore, suspecting that the bipedal edema was due to mirtazapine, it was stopped. Patient claimed that immediately two to three days after cessation of mirtazapine, the swelling reduced. On examination after 2 weeks, the bipedal edema had markedly reduced, which completely subsided after a month of stopping mirtazapine. However, rechallenge with mirtazapine was

not done and serum mirtazapine level was not measured either. Naranjo scale was applied that yielded a score of 7, which indicates that bipedal edema in this case was probably due to mirtazapine.[7]

DISCUSSION

Mirtazapine is a tetracyclic antidepressant which enhances noradrenergic and serotonergic transmission via alpha-2 adrenergic antagonism. However, mirtazapine's pharmacology doesn't involve monoamine reuptake inhibition. Although, mirtazapine is only FDA approved for depression studies have also shown it to reduce anxiety. At low doses, it acts as a potent H1 antagonist thereby inducing sedation as well as weight gain.[8] The starting dose of mirtazapine is 15mg/day for depression which can be titrated upto to a maximum of 60mg/day.[3,5,9]

There have been few reports of peripheral edema with mirtazapine. In a case of 31years old male with depression, peripheral edema was seen 10 days after initiating mirtazapine 37.5mg.[10] In another case, a 60 years old male developed peripheral edema after taking 45mg of mirtazapine for 1 month.[11] The mechanism by which mirtazapine causes bipedal pitting edema is not clearly known.

In our case, 40years old male developed peripheral edema 2 months after starting mirtazapine, despite the dose of mirtazapine being low ie 7.5mg/day. In the above mentioned two cases, the dose of mirtazapine was relatively high which could be the reason as to why the peripheral edema developed sooner. Therefore, it is necessary to bare in mind, that not only the dose but the treatment duration also plays an important role in developing such conditions.

There are studies where initial dosing of mirtazapine resulted in edema which subsided after increasing the dose to 60mg/day. The both cases reported in the above mentioned studies used low to moderate dose

CONCLUSION

In this case, mirtazapine can be considered as a probable cause of bilateral lower limb pitting edema. Dose dependent nature of this side effect cannot be pinned down. Although, mirtazapine induced peripheral edema is rare, its possibility as a side effect should be kept in mind while treating patients with it.

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