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Case Report

Tramadol Induced Angioedema

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***ABSTRACT*:**
Tramadol is a central analgesic whose analgesic action is accounted by action on opioid receptors and inhibition of serotonin and noradrenaline reuptake. It is considered a well-tolerated and safe analgesic and causes fewer adverse effects like CNS and respiratory depression, tachycardia, hypotension, coma etc compared to other opioids. Most common side effects due to tramadol is gastrointestinal upset (nausea and vomiting). It is 10 times less potent compared to morphine. The incidence of tramadol induced IgE mediated hypersensitivity reactions like anaphylaxis and angioedema is very rare with very few cases reported in literature till date. In this article we are reporting a case of tramadol induced angioedema in an adult patient.

Keywords: Angioedema, Anaphylaxis, Hypersensitivity, Tramadol.

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INTRODUCTION

Tramadol is a central analgesic having a low affinity for opioid receptors. Apart from its action on opioid receptors, its analgesic action is also accounted by inhibition of serotonin and noradrenaline reuptake.[1] O-desmethyltramadol is the metabolite of the drug that acts on the mu opioid receptor and has a higher affinity for the receptor compared to the parent drug.[2] However tramadol is 10 times less potent compared to morphine.[2] The adverse effects of the drug (nausea in particular) are mostly dose-dependent and more likely to occur if the loading dose is high.[1] Tramadol is considered a safe opioid analgesic beacause of fewer side effects like respiratory depression and hypotension compared to other opioids and tramadol related hypersensitivity reactions are very rare.[3,4] Angioedema is characterised by transient subcutaneous or submucosal swelling which is non-pitting upon applying pressure and is caused by fluid accumulation in the interstitium.[5] Tramadol induced angioedema is very rare and reported incidence is 1 in 1000 to 1in 10,000.[6] In this article we are reporting a case of angioedema due to intravenous tramadol in an adult.

CASE REPORT

A 25 year old female patient presented to the emergency unit of the hospital with complaints of headache for 2 days not associated with any fever, vomiting, giddiness, altered sensorium etc. At presentation her blood pressure was 110/70 mmHg and other vitals and physical examination was also normal.

She was given 50 mg of tramadol intravenously for headache in the emergency department and was not administered any other drug at that time. Patient did not have any history of ingestion of any other drugs before and did not have any comorbidities like hypertension, diabetes, asthma, eczema etc. The patient had lesions of tinea versicolor over her body but was not taking any medications at present. There was no history of any previous food or drug allergies.

The patient developed swelling of both the lips and the tongue within half an hour of administration of

tramadol. The tongue was protruding outside the oral cavity but there was no swelling of any other body part. The patient did not develop any rash over the body or pruritus. There was no stridor or hoarseness of voice, no dyspnea but the patient complained of mild difficulty in swallowing.

Physical examination revealed blood pressure of 110/70 mmHg, pulse rate- 90 beats/minute, oxygen saturation was 98% on room air, breath sounds were vesicular and there was no wheeze or rales. Rest of the systemic examination was normal.

Patient was managed in the emergency unit with intramuscular epinephrine, injection hydrocortisone, antihistaminics (pheniramine) following which the swelling decreased and the patient was shifted to the ward. In the ward routine blood tests sent for the patient (complete blood count, liver function test, kidney function test) were normal. ECG and chest X ray revealed no abnormalities. An ENT reference was made and indirect laryngoscopic examination was done using a 70 degree endoscope that revealed mild edema of the epiglottis but there was no edema of the vocal cords or uvula.

The patient was continued on antihistamines, nebulisation with corticosteroids and injection hydrocortisone and subsequently the swelling subsided in 3-4 days following which the patient was discharged with a warning to avoid any future use of tramadol

Figure 1: Image of the patient with angioedema:

DISCUSSION

Tramadol is an effective and well tolerated analgesic. It has a higher oral bioavailability than morphine.[2] The recommended dosage is 50–100 mg every 4–6 h not to exceed 300–400 mg/day.[7] Most common side effects of tramadol are nausea, dizziness, and vomiting and the symptoms of its intoxication are similar to other opioid analgesics although less severe and include central nervous system depression, coma, tachycardia, cardiovascular collapse, seizures and respiratory depression.[8] Though it is a relatively safe analgesic, cases of intoxication with tramadol have occurred especially due to congestion of other drugs or alcohol.[9] Till date around 11 cases of tramadol-related IgE mediated angioedema have been reported.[6] As mentioned before the reported incidence of angioedema in tramadol is 1 in 1000 to 1 in 10,000. Angioedema can be caused by degranulation of mast cells or by kallikrein-kinin cascade activation.[10] In the case of mast cell degranulation, angioedema is caused due to IgE mediated hypersensitivity allergic reactions to certain drugs or foods.[10] Angioedema can become life threatening when it causes airway obstruction due to laryngeal or tongue edema, bronchospasm and hypotension.[10]

CONCLUSION

Tramadol is a safe and effective opioid analgesic with lesser side effects compared to other opioids. The reported incidence of tramadol induced IgE mediated hypersensitivity reactions like anaphylaxis and angioedema is very rare with very few cases reported till date. In this article we reported one such rare case of tramadol induced angioedema in adult patient who received intravenous tramadol.

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