CASE REPORT

Shaking head means "no"

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SUMMARY

A 45-year-old man was admitted to the emergency department because of twitching of the head. The patient took a tablet of sumatriptan every 3–4 h because of increasing head pain after a car accident. Owing to depression, the patient was on long-term treatment with venlafaxine. The patient presented as hypertensive, tachycardic, with dyskinesia and spontaneous myoclonic movements of the right sternocleidomastoid muscle. In a CT scan of the head and cervical spine any fractures, bleeding or damage of the vessels after the accident could be ruled out. After discontinuation of all serotonergic agents, administration of lorazepam symptoms resolved 24 h after the last intake of sumatriptan. Serotonin syndrome is a clinical diagnosis, which requires a high-index of diagnostic suspicion. Clinical features include a broad spectrum of symptoms ranging from mild to life-threatening manifestations. Management is based on removal of precipitating drugs and symptomatic care including benzodiazepines.

BACKGROUND

Serotonin syndrome is a clinical diagnosis, which requires a high-index of diagnostic suspicion. Clinical features include a broad spectrum of symptoms ranging from mild to life-threatening manifestations.

CASE PRESENTATION

A 45-year-old man was admitted to the emergency department with the symptom of head twitching. He reported that he had been suffering from muscle clonus of the neck since the morning of the previous day. The patient had a car accident 4 days before, which resulted in contusion of the ribs of the left chest wall. For pain management, the patient received 30 mg codeine, 500 mg paracetamol (acetaminophen) and 500 mg metamizole. Long-term medications included venlafaxine 75 mg once daily for 5 years for depression, zolpidem 10 mg as needed for sleeping disorders and sumatriptan 50 mg as needed for known migraine. The patient interrupted zolpidem intake after the car accident because of the 'drug burden'. The patient took a tablet of sumatriptan every 3–4 h because of increasing head pain after the accident. Moreover, he reported a panic attack the day before and insomnia for two nights.

In the emergency department, the patient was hypertensive, with a blood pressure 170/100 mm Hg, tachycardic with a pulse rate around 100 bpm, 15/15 points on the Glasgow Coma Scale with dyskinesia and spontaneous myoclonic movements of the right sternocleidomastoid muscle (video 1). Hyperreflexia, hyperthermia, inducible clonus and diaphoresis were all absent.

INVESTIGATIONS

Laboratory values showed slight hypercalcaemia, increases in alanine aminotransferase and γ-glutamyl transpeptidase, but normal creatine kinase and creatine. A CT scan of the head and cervical spine ruled out any fractures, bleeding or damage to the vessels.

TREATMENT

All serotonergic agents were immediately stopped and lorazepam was administered for sedation. The patient was admitted to the hospital for further observation and symptomatic treatment.

OUTCOME AND FOLLOW-UP

The patient's blood pressure and heart rate subsequently normalised. The myoclonic movements resolved within 24 h of the last intake of sumatriptan.

DISCUSSION

The serotonin syndrome is a potentially life-threatening adverse effect of serotonergic drugs.[1] It is a clinical diagnosis based on the intake of specific drugs and certain clinical findings. Different classes of drugs possess the ability to enhance serotonin activity and are used in a variety of diseases, such as in depression, against emesis, migraine, bacterial infections or other conditions.

The clinical findings of the serotonin syndrome include a broad and variable spectrum of symptoms, such as hyperkinetics, autonomic instability or agitation. The Hunter criteria are fulfilled if clinical symptoms occur in a patient on a serotonergic drug.[2] Our patient used two serotonergic agents

Video 1 Spontaneous muscle clonus of the head resulting in head twitching.

concomitantly. Venlafaxine is a potent inhibitor of serotonin uptake.[3] Sumatriptan is a selective agonist for serotonin receptors.[4] The concomitant use of these agents may increase the risk of toxic effects due to central serotonergic overstimulation. Therefore, therapy may have to be modified. Moreover our patient unintentionally overdosed with sumatriptan, which has the potential for serotonin syndrome as monotherapy.[4] On the other hand, the patient discontinued zolpidem, which has a sedating effect similar to benzodiazepines.

Learning points

- The serotonin syndrome is a potentially life-threatening adverse effect of serotonergic drugs.
- The serotonin syndrome is a clinical diagnosis, where clinical findings include a broad and variable spectrum of symptoms.
- Management is primarily based on removal of precipitating drugs, supportive and symptomatic care including benzodiazepines.

Management is primarily based on the removal of the precipitating drugs, as well as supportive and symptomatic care including benzodiazepines. The administration of 5-HT2a antagonists was not necessary in our patient, as he only suffered mild symptoms, without signs of severe autonomic instability such as hyperthermia. The serotonin syndrome can be prevented by cautious use of potential drugs and by paying attention to possible drug interactions. Overdosage and combination therapy in our patient resulted in a shaking head—an easily recognised sign of rejection.

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Competing interests None.

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