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Tramadol and dexamethasone dependence: A case report

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Abstract

We here report a case of tramadol and dexamethasone dependence. 30 year old male reported exaggerated euphoria on use of dexamethasone along with tramadol. The synergistic effect of dexamethasone on tramadol is a matter of research, although some work has been done in murine models.

Keywords: Dexamethasone, tramadol, dependence

Introduction

Tramadol is a centrally acting, atypical opioid, analgesic which consists of two enantiomers, both of which contribute to its analgesic effect via different mechanisms. Tramadol and its metabolite o-demethyl tramadol are agonist at μ opioid receptors. (+)Tramadol also increases pre-synaptic release of serotonin and inhibits serotonin reuptake. (-)Tramadol inhibits norepinephrine reuptake. The two complementary actions improve the efficiency of the racemate. It is effective in moderate to severe acute and chronic pain including neuropathic pain, LBA, Osteoarthritis and breakthrough pain. It causes fewer opioid type side effects^[1]. Despite relatively low rates of abuse, tramadol acts on the opioid receptors, which can facilitate addiction. Tramadol is not scheduled under controlled substance act and therefore more attractive drug for misuse. There is another issue of diversion which must be addressed which is the availability of internet pharmacies that provide easy access to tramadol and promote misuse^[2]. The largest series of tramadol-dependence was reported from a study in Sweden, comprising of 104 patients, where the majority were women^[3]. Dexamethasone is a potent synthetic member of the glucocorticoid class of steroid drugs^[4]. It is used to treat many inflammatory and autoimmune conditions, such as rheumatoid arthritis and bronchospasm, idiopathic thrombocytopenic purpura and has also been used in treatment of adrenal insufficiency and Addison's disease^[5].

We report here a rare case of combined Dexamethasone and Tramadol abuse.

Case presentation

A 30 year old married male, father of 3 kids, educated up to primary lever, butcher by occupation who lives in a nuclear family of 5 members, belonging to lower middle class socioeconomic status, presented himself for detoxification to the drug de-addiction centre, Srinagar. He has a history of two and a half year dependence on injectable Tramadol and Dexamethasone which he takes by intramuscular route. Currently the patient presented with relapse after 7 months of remission (early partial remission).

Patient was apparently alright 3 years back, when one day he lifted a heavy load after which his back started to ache and he felt extremely stiff. As his headache worsened he was taken to an Orthopedician, who prescribed two injectables, one of which he reports was tramadol. Patient reports that he felt instantaneous relief. Next day he felt some mild pain and he went to a local chemist and asked for Inj. Tramadol. This time he felt a sense of well being and relaxation. After that he started taking 1-2 (50-100 mg) injections per day sometimes for mild pain and sometimes just to get the sense of wellbeing and pleasure. This increased to 2-3 (100-150 mg) injections per day. If someday he missed a dose he felt lethargic, irritable and did not like to interact with anyone.

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After few months he was diagnosed with prolapsed intervertebral disc and was operated by a neurosurgeon. His pain resolved and as a result of 2 months of immobility, he did not take any further injectables. He worked as a driver for 5 months as he was instructed he was not fit to work as butcher. Throughout this 7 month period he did not take any injectable. Then one day he went for a marriage party where he recalled the pleasure and the sense of feeling high that he used to get with tramadol. In order to relive that experience, he thought of taking one more injectable. After this he again started to take 3-4 (150-200 mg) injections per day and in order to maintain the euphoria he had taken up to 7 (350 mg) injections daily.

Throughout this period, he used to take injection dexamethasone along with tramadol. He started it on advice of a local chemist who gave him inj. Dexamethasone in order to prevent an allergic reaction. Then after 1 ½ years he started gaining weight and weighed about 95 kg. He also developed thinning of skin and developed striae. He even got admitted for this problem in a tertiary care centre where the cause of his condition was discovered and announced to him.

The patient noticed that his dependence on these drugs made him preoccupied with it as a result of which his social, personal and occupational functioning got affected. He also felt low in energy and was motivated to get detoxified. At the time of presentation the patient had withdrawal symptoms in the form of rhinorrhea, body aches, chills and perspiration. On inpatient basis, Clonidine 0.1 mg TID was started, alongwith Ibuprofen 400 mg TID. Meanwhile multiple sessions of Motivational Enhancement Therapy were carried out and patient was started on Naltrexone 50 mg per day under supervision.

Discussion

As an opioid-type analgesic, which exerts its effects through multiple receptor systems, tramadol carries a dependence producing potential ^[6]. This needs to be taken into consideration when detoxifying the patient from other opioids. Apart from those patients with medical disorders using tramadol ^[7, 8]; the drug has the potential for abuse by opioids-dependent subjects. Given the easy availability of tramadol from pharmacies in India and some other countries, its abuse and diversion may become a bigger challenge in the future. There is a need to effectively regulate the distribution of this medication, and apply the appropriate safeguards, to prevent diversion.

Though tramadol dependence is now widely reported, but a combination with dexamethasone is not known. The chance dependence of the present case has a wider potential of presenting more frequently, given that tramadol and dexamethasone are given routinely in combination during general anaesthesia for relief of postoperative pain and vomiting ^[9]. The synergistic effect of the tramadol dexamethasone combination has been proven by many murine experiments ^[10]. This is further augmented by the evidence in the present case of prolonged euphoric effects of tramadol in combination with dexamethasone.

Conclusion

The abuse potential of tramadol is low and that is why it has not been included in schedule 2 list. However, this has become the reason for its misuse. Dexamethasone has potentially a synergistic interaction with tramadol and is

again a freely available drug. Physicians need to be aware of such a potential interaction to take necessary steps in prevention and treatment.

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