

Fentanyl Dependence Caused by the Non-Medical Use: A Case Report

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ÖZET:

Tıbbi endikasyon olmadan fentanil kullanımı sonrası gelişen bağımlılık: Bir olgu sunumu

Fentanil pür ve selektif opioid μ reseptör agonisti olup morfinden 80-100 kat daha potent analjezik etkiye ve daha az yan etkiye sahiptir. Türkiye'de tek form olarak bulunan transdermal bant konsantrasyonları 2.5, 5, 7.5, 10 mg fentanil içerip 72 saat boyunca 25-100 mcg /saat dozlarında salınmaktadır. Son yıllarda bu kötüye kullanım gittikçe artmaktadır. Fentanil transdermal bantları tedavi amaçlı kullanan popülasyon haricinde, kötüye kullananlarda bant içeriğinin intavenöz enjeksiyonu, oral-transmukozal uygulama, rektal kullanım ve inhalasyon yolu ile alımı bildirilmiştir. Literatürde yurt dışından çok sayıda vaka bildirimleri bulunmasına rağmen, bunların hepsi ya kötüye kullanım ya da yanlış kullanım sonrası fentanile bağlı gelişen komplikasyonlarla ilgilidir. Tartışacağımız vaka Türkiye'den ilk defa bildirilmesi ve bir fentanil bağımlılığı olması nedeniyle önem kazanmaktadır. 59 yaşında bir erkek tıbbi endikasyon olmaksızın fentanil transdermal bantları kullanmış ve bağımlılık gelişmiştir. Literatürde fentanilin bir opioid reseptör agonisti olarak daha çok kötüye kullanımı bildirilmiş olsa da bağımlılık açısından da dikkatle ele alınması gereklidir.

Anahtar sözcükler: Fentanil, opiyat, bağımlılık

Klinik Psikofarmakoloji Bülteni 2010;20:255-257

ABSTRACT:

Fentanyl dependence caused by the non-medical use: a case report

Fentanyl is a pure and selective μ opioid receptor agonist. Its analgesic potency is 80-800 times greater than that of morphine with fewer adverse effects. Available formulations of fentanyl patches in Turkey contain 1.25, 2.5, 5, and 7.5 mg or 10 mg of fentanyl and provide a dose of 12.5-100 lg/h for up to 72 h. Abuse of fentanyl patches has been increasingly reported along with different routes of administration such as oral-transmural, intravenous, inhalation, and rectal use. There are many case reports about complications of fentanyl patches because of misuse or abuse. However, this is the first case from Turkey reporting fentanyl dependency in a 59 year old male patient, who had started to use fentanyl without any medical indication. Although abuse of fentanyl is commonly reported, patients should be carefully scrutinized for fentanyl dependence as well.

Key words: Fentanyl, opioid, dependence

Bulletin of Clinical Psychopharmacology 2010;20:255-257

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Kabul tarihi / Date of acceptance: 4 Mayıs 2010 / May 4, 2010

Bağıntı beyanı:

O.G., Z.G., M.N.: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemişlerdir.

Declaration of interest:

O.G., Z.G., M.N.: The authors reported no conflict of interest related to this article.

INTRODUCTION

Fentanyl is a pure and selective μ opioid receptor agonist. Its analgesic potency is 80-800 times greater than that of morphine with fewer adverse effects. Fentanyl is a synthetic narcotic analgesic that is available for the management of chronic pain. On the other hand it could be used for acute pain at the postoperative period because of its short action time. Fentanyl is administered via intravenous, epidural, transdermal, and transmucosal routes. Available formulations of fentanyl patches in Turkey contain 1.25, 2.5, 5, 7.5, and 10 mg of fentanyl and provide a dose of 12.5-100 lg/h for up to 72 h.

Abuse of fentanyl patches has been increasingly reported along with different routes of administration such as oral-transmural, intravenous, inhalation, and rectal use.

There are too many case reports about complications of fentanyl patches because of misuse or abuse. However, to our knowledge this is the first case report in Turkey about fentanyl dependency, which was caused by use without any medical indication.

CASE

The patient was a 59 years old man whose wife died 4 months ago because of cancer. He has had three children. He was a driver but he has not worked in the last 1.5 years. He was referred to our Department of Alcohol and Substance Dependence for using fentanyl patches. There was a patch on his scapula at the admission. To control his diffuse aches, he started to use fentanyl patches which were given to his wife, suffering from chronic

pain of lung cancer. Then he continued to use it by eating every 3 days. While he started at 25 mcg/h doses, he gradually increased the dose 50, 75 and 100 mcg/h. He was suffering from diffuse aches, headache, trembling, chilling and sweating after 72 hour of plastering or 5-6 hours after removing the patch. He was calming down approximately 5 hours after attaching the new patches. Also he had a history of cannabis abuse for 20 years, but stopped 10 years ago.

In his psychiatric evaluation; his hygiene and self-care were decreased, his affect was depressive, he was feeling useless and delinquent, and also he was complaining of diffuse aches and fatigue as somatic complaints. There were no destructive ideas or perceptual impairments but his psychomotor activity was decreased.

He was hospitalized at our clinic with the diagnoses of major depression, fentanyl dependency, and analgesic abuse. At first his dermal patches removed. There were no pathological findings except a high blood glucose level at biochemical tests. His treatment was ordered as quetiapine 200 mg/day, diazepam 20 mg/day, naproxen sodium 825mg/day when he had withdrawal symptoms. At the second day of his treatment, his diazepam dose was increased to 30 mg/day, then 40 mg/day as his complaints gradually increased. As he had insomnia venlafaxine 75 mg/day, mirtazapine 15 mg/day was started for his major depression and pain. Then venlafaxine dose was increased to 150 mg/day. As the withdrawal symptoms subsided, diazepam dose was gradually decreased and stopped. Mirtazapine that used for insomnia and naproxen-sodium for muscle pain were also gradually decreased and stopped and quetiapine decreased to 100 mg/day. He was followed as outpatient on venlafaxine 150 mg/day, quetiapine 100mg/day for 3 months and he met the early remission criteria.

DISCUSSION

Despite its ease of administration, slow absorption, constant serum concentrations, and the longer dose intervals, reduce the possibility of fentanyl-patch abuse, changing the route of administration to achieve rapid and enhanced activity increases its abuse potential (3).

In the literature the abuse of fentanyl patches by the non-treatment population is not restricted to transdermal application. There are reports about intravenous

injection of patch contents as well as oral/transmucosal administration, rectal insertion, and volatilization and inhalation of fentanyl patches (2).

Clinical studies showed that fentanyl patches could be applied effectively by oral or transmucosal routes. In the literature there was a study reporting 7 cases from Canada who died from oral abuse of fentanyl patches (2). The patches are known as chiclets because of their chewing gum shape. Given the variable dose-delivery following oral/transmucosal fentanyl administration, it follows that the maximum blood concentrations of fentanyl achieved and therefore any potential toxic effects could be dramatically affected by whether the user swallows the patch contents or if they retain it in the oral cavity for prolonged periods of time(2). Also there are cases about intravenous use of fentanyl as well as oral/transmucosal routes of abuse (4-7).

Our patient had a history of cannabis abuse and he had cited using fentanyl patches which were given to his wife to control the chronic pain of lung cancer, as a result of his diffuse pain and he increased the dose as tolerance developed. Due to the tolerance for 1 year, withdrawal symptoms, behavior of looking for the substance, reduced functionality at social and business environment, he had met the DSM IV substance dependence criteria, so we diagnosed opiate (fentanyl) addiction at our patient. As abuse of cannabis shows predisposition to substance addiction, it also facilitate to diagnose the pain defect. Also he obtained fentanyl without any clinical indication by illegal routes. Although there are many case reports about misuse or abuse of fentanyl and its complications (1-7), our case is worth noticing because of fentanyl dependence.

In geriatric patients as a result of chronic pain, iatrogenic misuses and abuses were recorded. On the other hand in younger population addictions are seen (2,6); there was an out of indication use in a geriatric and male patient in our clinic. The history of substance abuse and male gender are known to be risk factors for substance addiction. Comorbid psychiatric problems such as somatoform disorders may also increase risk for substance abuse. In conclusion; we have to be careful at using opiates for resolving chronic pain at the persons or their relatives who have individual or family history of substance abuse, dependent personality, and mood, anxiety or somatoform disorders. High-risk patients should be monitored closely and the doses of the drug should be calculated with precision.

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