

## A BRIEF REVIEW OF MISUSE, ABUSE, ADDICTION, AND PSEUDO-ADDICTION CONCEPTS THROUGH A CASE

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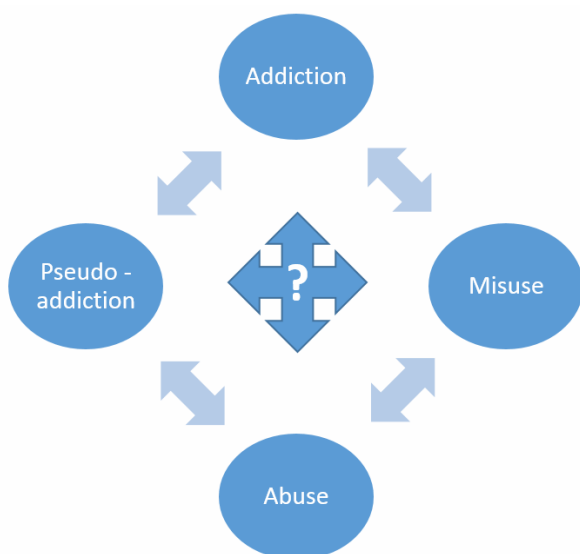
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### INTRODUCTION

Addiction, abuse, and misuse are frequently used interchangeably in daily medical practice. In the literature, the confusion about the proper use of these concepts is not limited (Chen et al. 2004, Erdem et al. 2013, Yagci et al. 2011). Abuse is defined as the use of a drug or substance outside its intended use, while misuse is the use of a prescribed medication outside the recommendations (at higher doses or longer). In addiction (and to some degree of abuse), there is an emphasis on the psychoactive effects of the drug or substance (Casati et al. 2012, Van Hout & Norman 2016). Pseudo-addiction is similar to misuse. However, there is a misuse of the physician, not the patient. Inadequate doses of analgesics, especially opioid analgesics, are the most basic examples of pseudo addiction in patients with chronic pain.

In this paper, the use of topical eye drops of proparacaine, which is a growing clinical problem especially in industrial workers has been discussed in terms of clarification of the concepts mentioned above (Figure 1).



**Figure 1.** Are we using these concepts correctly in the medical literature?

### CASE

A 47-year-old male presented to the emergency department with a complaint of a foreign body in the eye due to trauma about 1.5 months ago. His complaints did not decrease despite the treatment of the ophthalmologist. For this reason, the patient started to use proparacaine eye drops after 1 week without a doctor's recommendation. The patient was using about 20-25 drops per day. The effect of the drop lasted for 30-60 minutes. In this way, the patient used the drug for about 40 days. However, he was admitted to an ophthalmology service after his complaints had increased. In the examinations, a diagnosis of keratitis secondary to the proparacaine eye drop was made. The lens was applied to reduce pain. However, when the patient insisted on requesting medication, a psychiatric consultation was requested with a preliminary diagnosis of abuse or addiction. During the psychiatric interview, the patient stated that he had been hospitalized for the last three days and that he had not used proparacaine drops and there were no complaints (such as withdrawal symptoms or cravings) other than eye pain.

On psychiatric examination, no active psychiatric pathology was detected. There was no feature in the patient's psychiatric history. He used cigarettes but stated that he was not using any other substance.

### DISCUSSION

The use of new psychoactive substances is increasing. This may lead to some kind of defensive attitude in clinicians. Although proparacaine has cocaine-like effects, its use as eye drops (considering its dilution and absorption) is not expected to have a psychotropic effect. The bioavailability of the eye drops is extremely low and 5-10% absorption in the literature has been reported. The reason for this is the corneal and conjunctival epithelium which limits absorption and acts as a natural barrier. As a matter of fact, the use of proparacaine did not change any mental state or any behavioral or physiological symptoms were observed after discontinuation of the drug (Farkouh et al. 2016). This leads to the conclusion that proparacaine eye drop

is used to reduce the pain complaint rather than the pleasurable effects. In other words, although we cannot speak of a proper use, it is not exactly correct to talk about any use other than its purpose.

In this case, the concept of pseudo-dependence should also be taken into account. Pseudo-dependence results from the absence of treatment of pain with appropriate and adequate doses of analgesics in patients with severe pain. It is an iatrogenic syndrome consisting of behavioral symptoms that mimic addiction (Weissman & Haddox 1989). The stages in the development of pseudo-addiction were also observed in this case. Namely; First, there is a factor that initiates corneal acute pain (trauma-stimulus stage) and the patient demands more pain medication than his doctor. Here, the aim of the patient is to relieve the pain, except that there is no purpose that euphoria, elation or the like). In the second phase, the patient decides that he needs some additional medication or higher doses to relieve pain and attempts to convince his doctor that his pain is legitimate (escalation). As a matter of fact, the patient mentioned had first applied to the physician for 1 week in order to relieve the treatment and pain. The third and last stage is the "crisis" phase. The untreated pain is at its peak. At this stage, on the one hand, the patient begins to experience increasing drug search behavior, anger and isolation (the patient started this medicine at the suggestion of a friend instead of applying to the health board and did not make any application until her complaints increased after 40 days), while on the other hand health workers begin to experience avoidance and strain (asking for psychiatric consultation on suspicion of addiction).

The negative consequences of such cases not being named correctly are obvious. The patient, misappropriated by abuse or abuse, will be at risk of losing the chance to take appropriate medication at the appropriate dose and frequency. It will also be negatively stigmatized by a health professional and other social environments. There are two basic ways to be followed to prevent a clinical picture as described. First; to know that the patient's symptom (corneal pain in our case) is real, and to convince the patient that all done is done to

relieve the patient's pain. In this way, mutual trust can be restored. The second is to arrange a pain relief treatment plan at the appropriate dose and duration (Greene & Chambers 2015).

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**Contribution of individual authors:**

Mustafa Ugurlu & Sumeyye Sereyim performed a psychiatric examination and anamnesis interview.

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