

THE INFLUENCE OF DRUG ADDICTION IN ENDODONTICS

Andreea A. Maftai¹, Andrei Kozma^{2,4,*}, Andreea D. Iordan-Dumitru³

¹Independent Researcher, Private Medical Office, ²“Alessandrescu-Rusescu” National Institute for Mother and Child Health, Research Department, ³“Titu Maiorescu” University, Faculty of Dental Medicine, ⁴Member of Academy of Medical Sciences and of Academy of Romanian Scientists, Bucharest, Romania

Abstract: *Introduction.* Drug is a term used to describe those natural or synthetic substances that, through their chemical properties, cause changes in the function of organs and change the mental state of a person. The term refers to psychoactive substances. In a scientific sense, a drug is any substance that can lead to a state of addiction [1].

Objectives. The purpose of this article is to demonstrate how drugs, specifically heroine can affect the oral cavity.

Methods. The case presented will contain the story of a 19 year old girl with a severe hero-in addiction which lasted a couple of years, and recently became sober.

Results. The main reason which the patient asked for help was the severe pain, but another reason was the aesthetic part. The main goal is to remove the pain from each tooth and to restore it.

Conclusions. Drug abuse is a serious problem and it should be discussed more, especially with teenagers. The effects can be life threatening. Every single part of the human body will and can be affected. The effects on the teeth are serious and can result in losing all of them at a very young age.

Keywords: drug, heroin, oral cavity.

INTRODUCTION

These substances, the drugs, will also cause xerostomia, salivary flow alterations, enamel erosion, caries, periodontal disease and tooth loss [1]. It is known that patients who suffer from drug addiction can have a higher caries incidence, possibly due to the combination of multiple factors, such as a very high level of sugar, which they tend to consume often while administrating the drug [2]. Recent studies describe the presence of a larger amount of biofilm and, consequently, of dental caries in cervical areas as a pathognomonic sign of abuse of certain drugs.

Drug is a term used to describe those natural or synthetic substances that, through their chemical properties, cause changes in the function of organs and change the mental state of a person [3].

With regard to legal drugs, the most common situation that arises is that of “social consumption”. The transition from abuse to addiction is not the same for

all drugs, sometimes this transition is slow, long, while in the case of other drugs the transition to addiction can be fast, short (heroin) [4].

Opioids are produced from the poppy plant, and opioids are produced by synthesis or semi-synthesis. The category of opioids includes: opium, morphine, heroin, codeine, papaverine, etc. [4].

Heroin: at the same dose, is three times stronger than morphine. Heroin produces a state of com-fort, peace and good mood, eliminates pain and induces sleep. Severe intoxication due to a heroin overdose can lead to coma, pupillary dilation, depression, loss of consciousness, which ultimately causes death. Heroin use causes euphoric sensations, activates brain regions that produce physical and psychological dependence, characterized by a desire for drugs, tolerance and painful and dangerous withdrawal that includes panic, chills, anxiety, nausea or vomiting, insomnia and heart problems. The effect of heroin lasts 3 hours. Usually consumers inject their heroin intravenously into the

*Correspondence to: Andrei Kozma, “Alessandrescu-Rusescu” National Institute for Mother and Child Health, Research Department in Pediatric and Social Obstetrics, Bucharest, Romania, E-mail: dr.ka.mailbox@gmail.com

arms, legs, ankles, under the tongue, but they can also inject subcutaneously, intramuscularly, smoke or inhale. Heroin produces low salivary flow and increases the need to eat sweets [5].

However, the side effects of the substances consumed, which can range from simple completely reversible reactions, to complications of medium or high severity, which can severely affect the health or even endanger the patient's life, play an important role. Complications can be minimized by a correct clinical and radiological assessment and by adherence to treatment principles in conjunction with a local and



Figure 1. O.M., 19 years old patient - initial oral aspect.

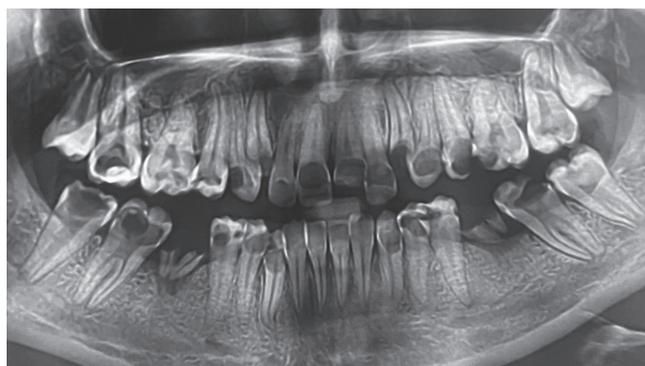


Figure 2. O.M., 19 years old - radiological aspect, panoramic radiography.



Figure 3. O.M., 19 years old - aspect after the treatment of 11, 12, 21, 22 and gingivoplasty.

general dental status [6].

Dental care for patients receiving drug rehabilitation treatment can improve their oral health, help them to recover from drug abuse and to reconstruct a “non-addict” identity. Based on one study, former drug users were embarrassed about how their mouths looked, but this did not interfere with their resocialization. In another study of intravenous heroin users, the appearance of their smile had negative effect on their social life [7].

In the present work, we present the patient O.M., a 19 year old female, coming from a neighboring district of Bucharest, went to a private practice office to solve her dental disorders which were caused by a long term heroin abuse and also a very poor dental hygiene. From the anamnesis it is remembered that the patient abused narcotics, more precisely heroin, for a period of several years.

At the oral examination, multiple deep carious lesions, root debris as well as a generalized gingival hyperplasia (Fig. 1), with spontaneous gingival bleeding, are found.

Following the radiological examination (Fig. 2), the severity of the cavities was seen, as well as the internal damage of the teeth. We can see that most of the teeth are affected.

The treatment started with the treatment of the upper central and upper lateral incisors, respectively the mechanical root canal treatment, after which the coronary restoration of the respective teeth was performed with the help of a composite material. In addition to the treatments of the affected teeth, a gingivoplasty was performed on the tooth 11 and also 21 (Fig. 3), and the tooth 13 was extracted.

A consultation from a cardiologist doctor was recommended to the patient due to the fact that the bleeding from the gums is abundant and continues for a long period of time. As the case is still going, mechanical root canal treatment and coronary reconstruction will follow on all affected teeth, as well as a generalized gingivoplasty.

RESULTS

Drug is a term used to describe those natural or synthetic substances that, through their chemical properties, cause changes in the function of organs and change the mental state of a person.

In the presented case, the patient unfortunately came to the dentist when the drug abuse effects were severe, which resulted in the loss of a few teeth, and also

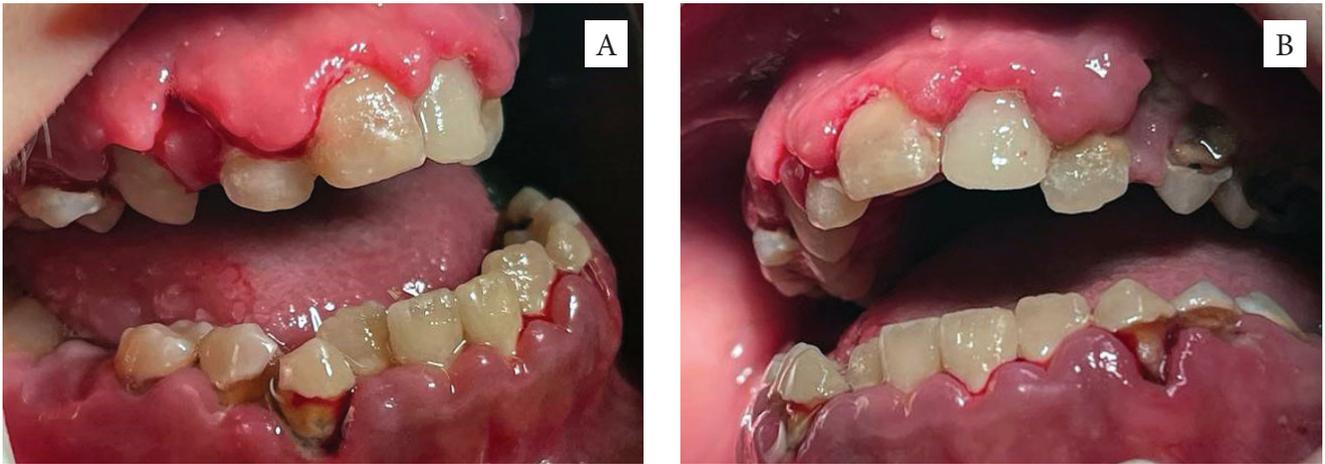


Figure 4. O.M., 19 years old - a. Right side aspect; b. Left side aspect.

a root canal treatment for most of the teeth, plus the coronary reconstruction of them.

The most severe aspect of the patient's addiction is that at a relatively young age, most of her teeth need some kind of treatment because of the deep cavities, while some of her teeth need to be extracted.

The most efficient kind of treatment is a root canal treatment followed by a coronary reconstruction and a generalized gingivoplasty.

It is very important that the dentist will teach the patient how to have a proper and correct dental hygiene, to encourage them, and also to tell them to fight the urge to use drugs in the future, because all the dental problems can reappear, and many teeth will have to be removed from the oral cavity.

This case was one of the severe forms of drug abuse with multiple consequences on the oral cavity.

During treatment, drug withdrawal may result in dental pain which interferes with treatment procedure and abstinence, and may lead to relapse. In a French case-control study of the impact of illicit drugs on oral health and the use of drugs for toothache, 52% of intravenous heroin users and 21% of other illicit drug abusers admitted using drugs as pain-killers. A similar finding on use of illicit drugs for toothache emerged from another study. Those quitting opiate use therefore require special care for pain control, and this should be integrated into their rehabilitation program. Those addiction treatment centers which provide OHC seem to be more successful in promoting both the oral and general health of their patients [8].

In conclusion, it is very important that every person know the negative long term effects of drug addiction. Also, it is very healthy to talk about it as much as we can, whenever we can. If we know someone, or we suspect someone of drug abuse, we must talk with

them, explain all the negative effects that the drugs will have on them, from the oral cavity to the whole body, and ask them if it's worth to feel happy for a couple of hours in exchange of severe pain and health problems later in life.

Conflict of interest

The authors declare no conflict of interest regarding this article.

The authors declare that all the procedures and experiments of this study respect the ethical standards of the Helsinki Declaration from 1975, as revised in 2008, as well as the national law. The informed consent was obtained from the patient included in the study.

Funding

No funding for this study.

References

1. Hadzic S, Dedic A, Gojkov-Vukelic M, Mehic-Basara N, Hukic M, Babic M, Beslagic E. The effect of psychoactive substances (drugs) on the presence and frequency of oral *Candida* species and *Candida dubliniensis*. *Mater Sociomed*. 2013; 25 (4): 223-225.
2. Mateos-Moreno MV, Del-Rio-Highsmith J, Rioboo-Garcia R, Sola-Ruiz MF, Celemin-Vinuela A. Dental profile of a community of recovering drug addicts: Biomedical aspects. Retrospective cohort study. *Med Oral Patol Oral Cir Bucal*. 2013; 18 (4): e671-679.
3. *Basic Pharmacology and Clinical Drug Use in Dentistry* by Churchill Livingstone; 6th edition (24 April 1995).
4. *ADA Dental Drug Handbook A Quick Reference Second Edition*.
5. Molendijk B, Ter Horst G, Kasbergen M, Truin GJ, Mulder J. Dental health in Dutch drug ad-dicts. *Community Dent Oral Epidemiol*. 1996; 24 (2): 117-119.
6. Madinier I, Harrosch J, Dugourd M, Giraud-Morin C, Fosse T. The buccal-dental health of drug addicts treated in the University hospital centre in Nice. *Press Med*. 2003; 32 (20): 919-923.
7. Fan J, Hser YI, Herbeck D. Tooth retention, tooth loss and use of dental care among long-term narcotics abusers. *Subst Abus*. 2006; 27 (1-2): 25-32.
8. Bullock K. Dental care of patients with substance abuse. *Dent Clin North Am*. 1999; 43 (3): 513-526.