

# Oral-Facial Manifestations Caused by the Use of Psychotropic Medication in Psychiatric Patients

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*The development of psychotropic chemotherapy with widespread use in the psychiatric clinic for its anxiolytic, hypnotic, antidepressant, psychostimulant or psycho-destructive sedative effects has given rise to a new pathology secondary to increased abuse and accessibility. Their neurotropism is generally exerted on the central nervous system at the level of the complex meso-diencephalo-striate structures, influencing the elementary psychic functions, but also the activity of the whole organism through the neuro-humoral system. The clinical investigation of the patient must be interdisciplinary in nature, as human beings are characterized by a bio-psycho-social unit, in which the various biological and psychological components, influenced to a greater or lesser extent by the social environment, are involved in a special way, which gives an original personality to everyone. There are five fundamental axes, which are usually evaluated: thinking, memory, attention, emotion and behavior. A disorder in any of these axes, intense enough to interrupt the normal activity in more than one operating field over a sufficiently long period of time, is diagnosable as a mental disorder. There is an indication borrowed from internal medicine regarding the acute character (weeks), subacute character (months) and chronic character (years), which is attached to the diagnosis. A small part of the entire psychiatric population suffers from severe conditions, which involve intermittent episodes of severe disinhibition, aggressive behavior and self- or hetero-directed violence. In most cases, we talk about conditions such as depression or anxiety disorders (panic disorder, phobias, obsessive-compulsive disorder), which do not make him a social predator, although they cause enormous suffering to the individual. This study includes 67 patients with mental illness. While conducting the study, we took into account that the first contact with the patient is essential for the results of the anamnesis, oral examination, risk assessment and provisional treatment plan. In the 67 cases there were performed mycological analyses. It is necessary that dentists have certain knowledge of psychology and psychopathology, in order to understand the mechanism of psychopathological reactions and avoid them.*

**Keywords:** drug illness, fundamental axes, interdisciplinary character, severe affections

A vehement appeal is made worldwide against one of the most dangerous diseases, the drug illness. Approximately 20% of all illnesses are due to this disease and mortality is quite high in some countries.

Psychiatric drugs have the role of correcting disorders of the psychic functions, emotional conditions and behavioral disorders. If a person is extremely agitated, aggressive, hears voices and misinterprets the surrounding events, it is possible to use drugs, in order to calm that person. Psychotropic drugs are administered to correct disturbed brain functions. The majority of psychotropic drugs do not provoke dependence. Drugs with addictive risk are prescribed on special recipes (yellow or green) [1-4].

Sometimes psychotropic drugs lead to healing mental disorders and sometimes they just ensure that the symptoms of the disease are controlled. Psychiatric medication should not be abruptly discontinued, but gradually, as recommended by the physician [5-8].

Pathological manifestations in the oral-facial sphere are quite common in psychiatric hospitals, where psychiatric patients undergo such intense therapy. The term psychosis encompasses a wide range of nosographic entities that refer to more severe forms of the mental illness they are part of (organic mental disorders, schizophrenia,

schizoaffective disorder, affective illness, delusional disorders and affective disorders). In order to define more precisely the term, a number of criteria have been proposed, some of which are questionable (gravity criterion, evolutionary criterion, etiological criterion) [9-12].

The psychotic model implies the global disorganization of the person, which is equivalent to the destruction of psychic unity and the loss of contact with reality. Psychosis creates a mental disorder that manifests itself at expressive level (through behavior, language etc.) and whose fundamental feature is the incomprehensibility [13-16].

Psychosis is a heterogeneous group of mental illnesses and syndromes with different symptomatology, etiopathogenesis and evolution, which usually occur on a premorbid background, fundamentally characterized by the demodulation of the ideo-emotional reactivity of behavior and discernment.

Various aspects of oral complications may be described during psychotropic therapy as *oral syndrome* characterized by: diffuse buccal dryness, erythematous congestive gingivitis or purulent gingivitis, erythema of the entire oral mucosa, lip cracks, angular cheilitis, rough or smooth dark tongue, red tongue without papilas, frequent oral candidiasis and other yeasts. The prolonged administration of neuroleptics and tranquilizers causes these disorders,

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usually associated with the proliferation of *albicans candida*, due to diminished salivary secretion [17-20].

The lack of oral moisture is the most frequent manifestation that may initially be functional and later organic and permanent, highlighting the frequency of chronic salivary gland infections.

The most frequent event was the salivary secretion dynamic disorder, leading sometimes to *asialia*, which in most cases determined the occurrence of the other oral modifications. *Asialia* is variable depending on the prescribed treatment, its duration, drug associations and the age of the disease, featuring several groups in this respect:

- *oral mucosa, which produces a strong thirst*; it determined functional disorders in general: sensation of saliva adhered to the lips and teeth with an unpleasant sensation, a burning sensation while swallowing, halitosis. The mucosa presents no modifications, but the gums are constantly affected (marginal erythematous gingivitis).

- *lack of salivary oral mucosa of medium intensity determines*: a dry feeling in the nasal pharyngeal mucosa and conjunctival dysphagia. The exo-oral examination reveals cracked inflamed lips, sometimes of bright red color, sometimes covered with small whitish crusts, as well as angular cheilitis, which is commonly encountered. The internal cheeks are smoothly lacquered with the bottom of the gingival-juval bag filled with saliva of sparkling and whitish aspect. The tongue had an irregular viscous look and a whitish color in general, although it had a dark brown appearance in 5 cases. The palatine bolt is red with inflammation of the excretory ducts of the palatine glands. The posterior pharyngeal gland is dry with sticky yellowish crusts. The channels of Stenon and Warthin are inflamed and open, evacuating a liquid saliva [21-24].

- *the feeling of oral drowning* affects more severely the whole mucosa, with a feeling of embarrassment when chewing and swallowing, which becomes difficult due to lack of water and the neuroleptic syndrome. The facies are characterized by dry skin that exfoliates, immobile face folds, conjunctivitis and frequent blepharitis. Angular cheilitis extends also around of the nasal orifice. At endo-oral level, it is possible to observe the insensitivity of the mucous membranes, which become reddish and covered with brownish-yellowish adherent crusts, showing different degrees of erosion. The tongue can be dry or depapilated with a strong red color. Oral candidiasis is frequently encountered. The teeth present, in general, a diffuse dental plaque, polycaries are very frequent and present certain peculiarities that distinguish them from the caries of non-psychotic and neuroleptic-treated patients [25-28]. The localization is usually at the level of the cervix with detachment of the gum and its retraction. The dentine appears blackish or blueish, soft and porous. It is impossible to specify the boundaries between it and the healthy enamel. The carious process affects first the premolar and molar cervix and then progressively all the teeth.

## Experimental part

### Material and method

The study included a batch of 67 psychotic patients with *asialia* and pathological oral manifestations, who underwent long-term mixed neuroleptic treatments (risperidone + levomepromazine).

While conducting the study, we took into account that the first contact with the patient is essential for the results of the anamnesis, oral examination, risk assessment and provisional treatment plan. The development of these stages in good conditions has made possible not only the

good orientation of treatment and subsequent care, but also the limitation of risks for the patients.

## Results and discussions

One of the elements of clinical investigation, with great practical value, is anamnesis. In order to carry out the anamnesis, it is necessary to have a calm attitude and a relaxing atmosphere, which ensure optimal cooperation.

Although it takes more time gathering information in these circumstances, good documentation makes the treatment easier, by ensuring effective co-operation. These initial discussions were recorded in a complete sheet, highlighting the ability of language, the capacity of keeping body hygiene, mobility and autonomy skills and potential disabilities.

In order to obtain the first pieces of information, it was necessary to appreciate the communication possibilities of the patient, which depend on the level and form of communication, the cultural-educational training and the level of retained cognitive activity, which required the use of higher forms of communication, while the cultural-educational level in the context of low brain activity required simpler forms of communication.

By using the methods of verbal and non-verbal communication, with all their subtleties, regarding the right language, reception, tone, confession-suitable atmosphere, patience, gentleness and understanding, precious information could be obtained, while establishing the elderly's general status, which led to an efficient collaboration.

In the 67 cases there were performed *mycological tests*. There was sampled saliva from the bottom of the vestibular satchet, as well as dentin from the dental caries. In 49 cases (73.13% of cases), the examination revealed the presence of a yeast, consisting predominantly in oral candidiasis, while in 11 cases (16.41%) we found an association between *candida albicans* and other yeasts.

When conducting the *biochemical test*, pH, glucose and salivary flow were dosed. In 22 cases (32.82%) the salivary flow was low and the acidic pH (4-5.50) was more frequent in those cases with hypo-salivation, i.e. in 19 cases (28.35%), while other cases presented inconclusive results.

It was possible to establish a concordance between the decrease in salivary secretion, the changes in pH and the presence of oral candidiasis. Glucose was present in 9 cases (13.43%).

Laboratory experiments on teeth extracted and maintained in a chlorpromazine or haloperidol solution demonstrated a different effect on the root and the crown. However, this cannot fully explain the oral syndrome that occurs during the neuroleptic therapy, because the time of transit through the oral cavity is short, but on the other hand the elimination of these substances is also carried out also by means saliva, which could justify to a point the direct noxious notion.

The occurrence of the oral syndrome during neuroleptic therapy is related not only to quantitative and qualitative changes in the salivary secretion of the oral environment, but also to other factors related to the biochemical, immunological and enzymatic implications that take place in the evolution of endogenous psychosis submitted to these treatments.

Clinical investigations have been psychologically and socially oriented, in order to establish an appropriate therapeutic scheme, taking into account the personality of the patient, as well as the family and professional environment, in which he/she is lives.

The multiple research highlights the fact that the task of the doctor is very complex. It is not limited to making a medical diagnosis and prescribing remedies, but it also includes studying the patient's personality in relation to the environment, assessing the pathological aspects in close connection with premorbid and morbid personality and its physic and social environment of existence.

In any disease, irrespective of its nature (organic, psychic), there is a close psychosomatic correlation. Therefore, the physician must take into account that every person has his/her own psychology, depending on the illness and that the person responds to the illness not only with all his/her personality, but also according to the traditional customs of his/her ethnic and cultural environment.

In the stage of the disease that precedes the moment, when the patient calls a physician, the patient develops a complex set of specific ideo-emotional experiences that the physician should take into account, when establishing the diagnosis and therapeutic activity.

These climate and family structure aspects characterized by socio-cultural conflicts and educational deficiencies put their seal on the personality of the individual, placing him/her in a situation of illness and determining his/her reactivity, which is characterized by the following attitudes: refusal or flight of reality, fear to treatment, failure, dependence on others, the tendency of neglecting their sufferings, the acceptance of being totally dependent on others, the conscious or unconscious refusal and acquisition of the disease (in situations where the ill person intuitively feels the fact that he/she can take advantage of his illness in some form).

In our examinations we have found sufferers confident in their own forces and the possibility to overcome the difficult existential moment that they are going through, as well as anxious patients, who are easily discouraged and even cultivate fear of the severity of their own illness. There are also intelligent patients with a rich background of medical knowledge, with whom, it is possible to collaborate well within a *doctor-sick* relationship, but who may be circumspect to the analyzes and decisions of the physician or who can simulate or dissimulate a very varied symptomatology. In opposition to these, we found patients with a lower level of general intelligence and medical knowledge, who do not find the right words and attitudes necessary for the proper judgment and appreciation of their own suffering and the relationship between them and the environment.

The psychoprotective treatment of the patient consisted in the application of specific forms of family psychotherapy, in which an important role was played by maintaining and positively influencing the patient's relationship with his/her social group and the attitude of the group (family, spouse, child-parents etc.) to the patient. In some cases we had to deal with sufferers that paid a great attention to the expressions and explanations that we gave, which means that any erroneous or emotional interpretations they make can constitute a true trauma for the patient's psychic (usually with a very obvious somatic echo). For the same purpose, we have acted towards strengthening the self-control capacity, as well as the patient's capacity to adapt to unpleasant situations, channeling his/her concerns to an activity that would reward him/her and divert his/her attention from conflicts or morbid concerns.

In those cases, where psychotherapy was not enough to restore the patient's psychical balance, we applied a psychopharmacological treatment by administering minor tranquilizers, while more complicated cases were directed to the psychiatric clinic.

### *Chemical substances with a depressive effect on the central nervous system*

The metabolism of drugs is mostly done in the liver. Any drug is metabolized, in a first step, in a constant percentage of the dose per time unit.

Hypnotic and sedative drugs are chemical substances with depressive effect on the central nervous system. Small doses of hypnotics causes sedation, sedatives relieve anxiety, while tranquilizers reduce performance and favor sleep.

Barbiturate and benzodiazepine hypnotics speed up the sleeping process, increase the overall duration of sleep, reduce the duration and frequency of nighttime awakenings; modify the stages of physiological sleep, defined by the electroencephalogram, as well as ocular movements and the evolution of physiological indices. The duration of the slow sleep is increased due to the prolongation of stage 2 (unequivocal sleep), while stage 1 (falling asleep) and stages 3 and 4 (slow wave sleep) are shortened. The rate of rapid sleep (sleep with rapid eye movements and dreams) in relation to total duration of sleep, as well as the number of fast sleep cycles, decrease.

Hypnotics are used to treat situational insomnia - periods of irregular activity/rest, sick or elderly people who sleep during the day, rapid change of time zones.

The insomnia caused by pain, anxiety, depression can be solved by causal treatment. The insomnia produced by different drugs: amphetamines, bronchodilators etc., disappear when the patients stop taking these substances. The hypnotic treatment is necessary in persistent or chronic insomnia.

Adverse reactions: somnolence; nausea when waking up, residual sedation with decreased psychomotor performance. Regular use disadjusts the physiological sleep pattern; stopping the treatment causes an exacerbation of the stages of sleep; there is a tendency to insomnia. Chronic poisoning occurs in case of long-term use of high doses. Manifestations consist of a mixture of depression and psychic stimulation phenomena; thinking becomes difficult; attention and memory are flawed, speech is slow, a state of emotional lability, irritability and lack of affection control appears. Chronic use determines a state of addiction. The phenomena are similar to those of alcohol, barbiturates and benzodiazepines.

Tolerance consists in the decrease of central nervous reactivity to hypnotics and their faster metabolization. The abstinence syndrome is characterized by: excitation, agitation, anxiety or depression phenomena, insomnia, abnormal sleep with dreams unpleasant or nightmares, EEC changes, tremor, delirium and convulsions. The tremor - delirium - convulsions is characteristic of the alcohol-barbituric-type abstinence syndrome.

Generally speaking, the patient comes in fear to the dentist's office, afraid of the equipment, extraction, anesthesia, cutting tools and hemorrhage. The multitude of problems that dental therapeutics pose to the reactions of the patient with a personality that falls within the limits of the normal, impose to the dentist some obligatory attitudes and skills, such as: continuous observation of patients and deciphering their personalities, because many dentists listen without hearing and, depending thereon, they should find the optimal means of approaching the patient, managing the psyche to achieve co-operation and avoiding unpleasant conflicts, the need of explaining and motivating the therapeutic act, as well as the need of explaining the work and the final goal to be achieved.

Under these circumstances, the dentist must have some knowledge of psychology and psychopathology, in order to

understand the mechanism of psychopathological reactions and avoid them.

The morphological and functional integrity of the stomatognathic system gives to the individual a *state of well-being* that affects his/her somatic and psychic health. Any disturbance at this level attracts repercussions into the psychic and social compartments.

The psychological shock caused by the fear of losing teeth can lead to a lack of respect and trust, making it difficult to cooperate with the dentist during the restorative process.

## Conclusions

*Psychotropic medication* is the main component of the treatment of mental disorders

The clinical research of the patient must be interdisciplinary, because the human being is characterized by a bio-psycho-social unity.

Pre-psychiatric examinations are designed to filter patients with mental disorders and refer them to the psychiatric services.

Applying a complex psychological examination methodology allows for a diagnosis and treatment as appropriate as possible.

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