

Abstinence syndrome

Abstinence syndrome (also **withdrawal syndrome** or **withdrawal syndrome**) can be defined as a condition in which many subjectively unpleasant feelings occur due to the interruption of the use of a psychoactive substance, mainly craving for the drug (so-called *craving*), and usually also somatic manifestations (especially when the drug carries a risk of physical dependence - typically with sedative substances). Depending on the type of psychoactive substance, after the withdrawal of which the withdrawal syndrome was provoked, the duration of use and the doses used, the withdrawal syndrome can be exacerbated not only as a subjectively unpleasant feeling, but also as a life-threatening condition.

Physical and psychological dependence

Physical dependence means the adaptation of the organism to the effect of the drug and the gradual inclusion of biochemical processes caused by the application of the substance among other "normal" biochemical processes in the body. Pathological (often irreversible) changes usually occur at the molecular and tissue level in specific organs.

On the other hand, **psychological dependence** means the adaptation of the psycho-social component of the individual's personality to the application of the drug with a gradual increase in the need to repeat the intoxication.

It is true that the withdrawal syndrome for drugs that cause little or no physical dependence (amphetamine derivatives) is usually only subjectively unpleasant. Conversely, substances that cause physical dependence (alcohol, opiates, benzodiazepines) can directly threaten the patient's life in the first days of abstinence (delirium tremens).

The following table indicates the degree of physical and psychological dependence

| Substance | Physical dependence | Psychic addiction |
|--|---------------------|-------------------|
| Alcohol | Very strong | Very strong |
| Amphetamines | Weak | Strong |
| Cocaine | Weak | Very strong |
| Tobacco | Medium | Strong |
| Weak opiates (codeine, pethidine) | Medium | Strong |
| Strong opiates (morphine, heroin) | Medium | Very strong |
| Benzodiazepines | Strong | Strong |
| Cannabinoids | Very weak | Moderate |
| Hallucinogens | Very weak | Moderate |
| Volatile substances (toluene, acetone) | Medium | Strong |



Alcohol Diagram

In simple terms, it can be said that the symptoms of drug withdrawal are the opposite of the effects of intoxication – psychoactive substances that stimulate the body (nicotine, amphetamine, cocaine) cause psychomotor depression upon sudden withdrawal, on the other hand, substances that have a sedative effect (alcohol, opiates) cause excitement.

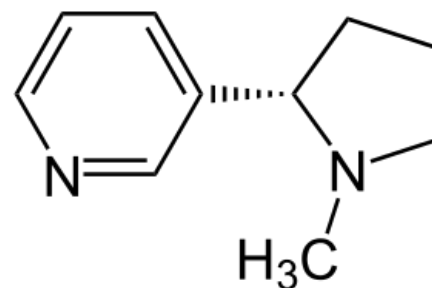
 For more information see *Substance Abuse*.

Clinical picture and treatment

For simplicity, in this article we will classify psychoactive substances into 4 groups - alcohol-type drugs, stimulants, opiates and hallucinogens.

Alcohol-type drugs

- They represent probably the riskiest group in terms of complications and prognosis during treatment.
- These include benzodiazepines, barbiturates and alcohol.
- Withdrawal syndrome is manifested by noticeable excitement, anxiety, irritability and a significant desire to use the drug.
- In the case of benzodiazepines, epileptic seizures of the grand mal type can occur even in people without a history of neurological problems.



Nicotine

Equivalent doses of benzodiazepines

| Benzodiazepine | A dose equivalent to 10 mg of diazepam |
|------------------|--|
| Alprazolam | 1 mg |
| Lorazepam | 1 mg |
| Clonazepam | 1 mg |
| Flunitrazepam | 2 mg |
| Nitrazepam | 10 mg |
| Chlordiazepoxide | 20 mg |
| Temazepam | 20 mg |
| Oxazepam | 30 mg |

- Alcoholic delirium can develop in extreme cases.
- As a rule, abstinence is achieved by gradually reducing doses, especially with benzodiazepines.
- With benzodiazepines (substances with a longer $t_{1/2}$), the so-called **rebound phenomenon** can also be expected - the return of symptoms (due to which the patient originally started using the drug) often with even greater intensity than before treatment, even after a few days or weeks.
- For BZD, it is recommended to give an equivalent dose of diazepam on the first day of hospitalization (see the table on the right), reduce it to 70% the next day and by 5% every other day (applies only in case of use of relatively low doses).
- Supportive treatment is important (in the case of alcohol, group B vitamins or treatment with acamprosate or tiapride, or benzodiazepines in case of convulsions), non-benzodiazepine anticonvulsants or low doses of antipsychotics can be used for benzodiazepines.
- Depending on the drug, acute withdrawal symptoms appear within a few dozen hours of use, and gradually disappear after 1-2 weeks.
- Non-benzodiazepine anxiolytics such as Hydroxyzine (Atarax) are recommended to manage anxiety.

Psychostimulants

After a long-term "ride" (use of amphetamines for several days without rest and with minimal food intake), morbid sleepiness and fatigue occur, which alternate with momentary wakefulness, when the abstainer consumes an enormous amount of food and liquids (stimulants suppress these needs), the so-called "wolfishness" hunger".

- These are cocaine, amphetamine and its derivatives (methamphetamine), possibly also nicotine.
- After withdrawal, there is noticeable depression, apathy, and also a desire to use the drug.
- Stimulants also include caffeine, however, caffeine withdrawal symptoms are minimal.
- Withdrawal symptoms subside within a few days.

Opiates

- These include morphine, codeine, tramadol, pethidine, fentanyl, sufentanil, heroin, methadone.
- They are divided into weak and strong (see above), withdrawal symptoms when stronger opiates are discontinued, therefore occur with greater intensity.
- During abstinence, flu-like symptoms occur - runny nose, pain in muscles, joints and head, hyperesthesia, subfebrile and anxiety.
- Since opiates act as a constipating agent, their withdrawal causes persistent diarrhea.
- The advantage is that riskier opiates and methods of administration can be replaced during the substitution program with safer substances (e.g. heroin for suboxane or methadone).
- Withdrawal symptoms usually subside within a week.

Hallucinogens

- These include LSD, Psilocybin, DMT, MDMA (the active substance of ecstasy is on the border between stimulants and hallucinogens), cannabinoids.
- We can also count among them the rarely used deliriogens (Durman common, Blin black, Rulík zlomocný, Mandragora medicarenska) and volatile substances.
- Hallucinogens cause severe disorders of consciousness and thinking and deeply interfere with the integrity of the individual's psyche, however, withdrawal symptoms are minimal.
- Only for volatile substances is the dependence stronger.

Common symptoms can be included in all the groups mentioned, such as loss of appetite or, conversely, the urge to overeat, nausea, depression, anxiety, suicidal tendencies, etc. Malnutrition is also a possible complication (especially in users of stimulants). The relatively frequent occurrence of abuse of a polymorphic nature (addiction to several substances at once) is also a problem. For a better prognosis, in addition to supportive pharmacotherapy, psychotherapy should also be a matter of course.

⚠ It is also important to draw attention to the fact that patients often lie about their addiction during drug addiction treatment, especially during court-ordered institutional treatment. It is appropriate to record the anamnesis with the close relatives of the patient without his presence.

In practice, the question of whether, for example, to prohibit smoking in patients abstaining from other substances is often discussed. Although nicotine can act as a substitute for alcohol to some extent, withdrawal from both substances at the same time improves the prognosis and reduces the likelihood of relapse.

Links

Related Articles

- Benzodiazepines
- Ethanol

- Opioid use disorders
- Amphetamines
- Hallucinogens
- Delirium tremens
- Barbiturates

References

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