

Bulatov R.M.,
*Assistant Lecturer,
Department of toxicological chemistry,
SBEI HPE «Perm State Pharmaceutical Academy»
Ministry of Health of Russian Federation*

Malkova T.L.,
*Doctor of Pharmaceutical Sciences,
Associate Professor, Head of toxicological chemistry department,
SBEI HPE «Perm State Pharmaceutical Academy»
Ministry of Health of Russian Federation*

CHEMICAL AND TOXICOLOGICAL ANALYSIS OF RISPERIDONE AND 9-HYDROXYRISPERIDONE IN THE URINE

Nowadays a positive experience of neuroleptic application is well-known but one of the most essential problems in modern clinical toxicology is the issue of acute poisoning by these drugs. In psychiatric practice poisoning by this group of drugs makes 10-15%.

Being one of the representatives of atypical antipsychotic drugs, used to treat schizophrenia, risperidone is the drug of first choice. Pharmacokinetic data indicate that risperidone ingestion is absorbed rapidly and completely. Meanwhile food does not affect absorption rate and fullness. In the body it is metabolized to 9-hydroxyrisperidone which has a similar pharmacological effect. It is excreted by the kidneys in preference (70%) and faeces (15%).

There are cases of acute poisoning with risperidone, including fatalities, described in foreign and domestic literature.

The analysis of recent publications on the topic suggests that neither systematic research on the development of iso-

lation methods out of biological objects, nor identification of risperidone and its active metabolite of 9-hydroxyrisperidone have been held yet.

Chemical-toxicological analysis, carried out using the most sensitive physico-chemical methods of determination, makes it possible to establish the presence of risperidone and its active metabolite in the body and to define the number in case of poisoning.

Original economical methods of isolation, detection and quantitative determination of risperidone and 9 – hydroxyrisperidone in biological fluids (urine) have been developed. The application of TLC and HPLC can reliably establish the fact of poisoning by studied drugs. Practical use of these techniques in chemical-toxicological laboratories has been proved and justified. As a result, it allows to reduce the time of diagnosis of poisoning by studied drugs and to assess the degree of poisoning in order to provide timely medical aid to a victim.