HISTOMORPHOLOGICAL CHANGES 3 AND 24 HOURS AFTER CLOZAPINE-ETHANOL POISONING

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Introduction: Clozapine is an *atypical* neuroleptic used to treat some psychiatric diseases [1–3]. The lung is one of the *target* organs in case of clozapine poisonings [4]. However, the dynamics of morphological changes in the lung has not been studied before.

The objectives of the study: The purpose of our study is to reveal morphological changes in the lungs in acute clozapine and ethanol poisoning 3 and 24 hours after the intoxication.

Materials and methods: A comparative study of histological sections of the lungs of outbreed male rats weighing 290–350 g was performed. The group of comparison (5) included intact animals. Animals of study group 1 (5) and study group 2 (5) were treated with clozapine (150 ml/kg) and ethanol (5 ml/kg) and decapitated 3 and 24 hours after drug administration, respectively. Fisher's ratio test was used to estimate the reliability of the difference between the groups. We also performed morphometric analysis.

Results: No pathological changes were observed in the group of comparison. The following signs were detected in study group 1: hemorrhages into alveolar septi and alveoli, perivascular hemorrhages, thickening of the intraalveolar septi due to edema, an increase in WBC number, atelectasis, distelectasis. The signs detected in study group 2 were as follows: hemorhage into alveolar septi and alveoli, infiltration of intraalveolar septi by leucocytes, perivascular hemorrhage, thickening of the intraalveolar septi due to edema, an increase in WBC number, atelectasis, distelectasis.

The share of the alveoli was significantly lower in both study group than in group of comparison. The share of the area of intraalveolar septi, the share of the area of vessels, the share of the area of WBC, the share of the area of WBC in intraalveolar septi, the share of the area of distelectasis, the share of the area of edema were higher in both study group than in the group of comparison.

Conclusion: All these pathological changes can be used to diagnose clozapine and clozapine-ethanol poisonings and the cause of death.

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