haemodialysis were performed. 3 months after hospitalization the patient suffered hemorrhagic brain stroke and this caused his death.

The results from the study show that ethylene glycol is found in blood between $8^{th}$ – $31^{st}$ hours. The clinical manifestation corresponded to the concentration of ethylene glycol in blood and urine. These concentrations also contribute the determination of therapeutic methods.

**CONCLUSION:**

1. Toxico-chemical analysis gives possibility for diagnosis of acute poisonings with ethylene glycol.
2. The monitoring of concentrations of ethylene glycol in blood and urine determinates the therapeutic methods.

In the case of patient in coma and severe metabolic acidosis performance of toxico-chemical analysis is necessary.


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# CASES OF NON-CLINICALLY MANIFESTED METHANOL INTOXICATIONS – DIAGNOSTICS AND BEHAVIOUR


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**SUMMARY:**

The high toxicity of methyl alcohol is usually related to the created formaldehyde and formic acid in organisms. Some researchers, however, assign the high toxicity to other factors such as the long-time circulation of methyl alcohol in blood in an unaffected fashion. For that reason, in cases of non clinically manifested intoxications, the results of the chemical and toxicological analysis play core and very important role for the diagnostics and follow up treatment procedures.



**Key words:** methyl alcohol; acute poisoning.


The purpose of this research is to study the importance of the chemical and toxicological tests for the diagnostics and for the treatment of acute intoxications with methyl alcohol without clinical manifestation.

**SAMPLE AND METHODS.**

Presented are 5 cases of methanol intoxications without clinical behavior. Diagnostics has been completed upon receiving data of the chemical and toxicological analysis Treatment proceeded as per continuous poison and antidote control in blood and urine. The concentrations of the two

alcohols are defined using the gas chromatographical method for analysis of organic dissolvents.

## RESULTS AND DISCUSSIONS.

Described intoxications are observed in patients who regularly consume ethyl alcohol. The results of the toxicological and the chemical analysis when patients entered the clinic show lethal methanol quantities in blood. Antidote treatment complies with the concentrations of the two types of alcohol. Bio-monitoring data is shown in Table 1.

## CONCLUSION.

In cases of non clinically manifested methanol intoxications, toxicological and chemical diagnostics as well as the continuous control of methyl and ethyl quantity in the blood and urine play a decisive role for the adequate clinical behavior and effective treatment.

**Table 1.** Concentrations of methanol and ethanol in blood and urine

| | | NAME | N.N.B. | B.G.I. | T.G.A. | T.S.G. | I.K.S. |
|---|---|---|---|---|---|---|---|
| **1 h** | **BLOOD** | MET. (g/l) | 4.142 | 1.723 | 0.025 | 1.212 | 1.662 |
| | | ET. (g/l) | 0.009 | (-) | (-) | (-) | (-) |
| | **URINE** | MET. (g/l) | | | | | |
| | | ET. (g/l) | | | | | |
| **3 h** | **BLOOD** | MET. | 3.232 | 0.965 | | 0.788 | 1.820 |
| | | ET. | 0.032 | 0.016 | | 0.044 | (-) |
| | **URINE** | MET. | | | | | |
| | | ET. | | | | | |
| **6 h** | **BLOOD** | MET. | 2.948 | 0.743 | | 0.967 | 1.504 |
| | | ET. | 0.177 | 0.139 | | 0.170 | 0.857 |
| | **URINE** | MET. | 3.344 | | | | |
| | | ET. | 0.107 | | | | |
| **9 h** | **BLOOD** | MET. | | 0.768 | | | |
| | | ET. | | 0.016 | | | |
| | **URINE** | MET. | | 0.992 | | | |
| | | ET. | | 0.024 | | | |
| **12 h** | **BLOOD** | MET. | 2.514 | 0.618 | | 0.990 | |
| | | ET. | 0.534 | 0.057 | | 0.800 | |
| | **URINE** | MET. | 3.282 | 0.738 | | 1.049 | 1.731 |
| | | ET. | 0.801 | 0.011 | | 0.983 | 1.508 |
| **21 h** | **BLOOD** | MET. | 4.111 | 0.591 | | 0.847 | 2.212 |
| | | ET. | 0.437 | 0.221 | | 0.090 | 1.453 |
| | **URINE** | MET. | 3.925 | 0.607 | | 1.023 | 2.178 |
| | | ET. | 0.342 | 0.339 | | 0.052 | 1.873 |
| **24 h** | **BLOOD** | MET. | 2.702 | | | | |
| | | ET. | 0.314 | | | | |
| | **URINE** | MET. | | | | | |
| | | ET. | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **30 h** | **BLOOD** | MET. | 3.399 | 0.488 | | 0.765 | |
| | | ET. | 1.134 | 0.283 | | 0.309 | |
| | **URINE** | MET. | 3.514 | 0.481 | | 0.752 | 1.968 |
| | | ET. | 1.336 | (-) | | 0.327 | 2.079 |
| **48 h** | **BLOOD** | MET. | 1.759 | 0.136 | | 0.292 | 0.934 |
| | | ET. | 0.047 | (-) | | (-) | 0.422 |
| | **URINE** | MET. | 1.806 | 0.193 | | 0.345 | 0.918 |
| | | ET. | 0.399 | (-) | | 0.021 | 0.374 |
| **60 h** | **BLOOD** | MET. | 0.696 | (-) | | (-) | 0.478 |
| | | ET. | (-) | (-) | | (-) | (-) |
| | **URINE** | MET. | 1.027 | 0.047 | | 0.035 | 0.573 |
| | | ET. | (-) | (-) | | (-) | (-) |
| **72 h** | **BLOOD** | MET. | 0.458 | (-) | | | 0.352 |
| | | ET. | (-) | (-) | | | 0.163 |
| | **URINE** | MET. | 0.523 | (-) | | | 0.397 |
| | | ET. | 0.117 | (-) | | | (-) |
| **96 h** | **BLOOD** | MET. | 0.026 | | | | 0.049 |
| | | ET. | (-) | | | | (-) |
| | **URINE** | MET. | 0.108 | | | | 0.092 |
| | | ET. | (-) | | | | (-) |

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