Dear Editor,

Methanol (wood alcohol) is a solvent, volatile, colourless liquid. Metabolites of methanol are toxic. Most of the time they are orally taken in suicides or simply by accident. In methanol poisoning, the primary toxic factor is metabolic acidosis. It is known that formic acid, a primarily toxic metabolite, is directly proportional to the severity of metabolic acidosis and that signs of mortality and ocular signs correlate with the degree of metabolic acidosis. Lethal dose and morbidity limits are quite variable for human beings. Both in animal experiments and researches conducted on humans report histopathological findings related to bilateral putamen cystic or hemorrhagic erosion in methanol poisoning. As a result, methyl alcohol poisoning is a still common problem in Turkey to which no solution could yet be found (1). Chronic alcoholics, with an urge to drink anything with alcohol in it, may request drinking methanol containing drinks or they may purchase illegally produced alcoholic beverages that should not normally contain methanol and thus eventually get poisoned. Acute methanol poisoning can either be sporadic or epidemic and usually ends in death (2). Primarily methyl alcohol is not toxic. However, formaldehyde and formic acid, metabolites of methanol, are toxic (3,4). Just as in the case of ethyl alcohol, when taken orally, these are rapidly absorbed by the gastrointestinal tract (3,5). Although ethanol reach peak concentration levels within 30-60 minutes in the plasma, there is a quiet, symptom-free period ranging from 40 minutes to 72 hours (5). This is because of the slow metabolism of the formaldehyde into methanol (6).

Typically, at the end of this period, there arise visual disturbances, headache, dizziness and confusion. In more severe poisonings, cerebral oedema, followed by coma and convulsions, can be observed (3). The lethal dose for methyl alcohol is between 100 to 250 ml. However, when swallowed, an amount as little as 60 ml can also be lethal (7). In our case, along with the causes of the sudden death of our patient such as the intensity in the emergency service, lack of ER care and in-depth stories about the patient, vague complaints and findings and not suspecting during the application, we have aimed to review the literature concerning methanol poisonings.

A sixty-two-year-old male patient, accompanied with his relatives, was admitted to the emergency room at around 15:00 with mild shortness of breath. The initial examination showed that he was conscious, oriented, and cooperative with 110/70 mmHg blood pressure, 88/mins. pulse rate (rhythmic), 36.7 degree Celsiu fever: 14/mins. respiratory rate (rhythmic), and normal sinus rhythm (ECG). Further investigation concerning the patient’s history of shortness of breath showed that he was diagnosed with chronic bronchitis at the Chest Diseases Clinic about a month ago or so and was invited to the clinic for a check the other day by a call from the secretary of the clinic. On physical examination, no pathological findings were found other than sibilant rhonchi in the patient’s lungs and the long expiration duration. A treatment for chronic obstructive pulmonary disease was started. Blood samples were collected from the patient for routine blood chemistries, complete blood test, cardiac markers, D-dimer, and arterial blood gas. Apart from a mild elevation of CO2, no abnormalities were found. PA chest X-ray was normal. In the light of the findings after physical examination, ECG findings, PA lung X-ray and blood gas values, acute coronary syndrome, aortic dissection and pulmonary embolism were initially eliminated and it was decided to evaluate further test results for which the patient was taken to observation room. Test results showed leukocytes as 15,6; glucose level as 194, and potassium as 5.9. Thirty minutes later, in the observation room, the patient started to suffer from shortness of breath and chest pain upon which ECG, blood gases, cardiac markers, and arterial blood gas. The patient was taken to the red area of the ER. Because of the deterioration in the general condition of the patient, his Glasgow Coma Scale being 6, blood gas results being pH: 6.917, pCO2: 13.1, and HCO3: 6.9, the patient was intubated. TA was 50/20mm-hg at the time and though further TA could not be taken. The patient underwent cardiopulmonary resuscitation (CPR). Starting from 1mEq/kg, the patient was given NaHCO3. The patient’s spontaneous breathing and cardiac circulation started again. In the meantime, more information was obtained from the patient’s relatives. They reported that the patient was a chronic alcohol addict, has been regularly...
Methanol poisoning patients may be admitted to the emergency department with complaints of blurred vision problems. Assuming that the patient had methyl alcohol poisoning, we instantly planned hemodialysis for the patient. While inserting dialysis catheter through the femoral vein for hemodialysis, the patient re-arrested. Despite effective CPR, the patient was lost. Ethyl alcohol level in the patient’s blood was 165 promille. Our hospital does not analyse methyl alcohol samples.

Clinical signs are more associated with the severity of acidosis than the methanol concentration. If alcohol taking is accompanied with ethanol intake, the emergence of symptoms may be more extensible (8). Ethanol taking, the harmful effects of which are well-known, instead of methanol taking, is an important problem for severe alcoholics. Cases are mostly between the ages of 30-40 and 80-90% men constitute a large portion of this number (9).

As it was in our case, conditions like not having taken alcohol for the last twenty-four hours, losing consciousness within fifty-sixty minutes despite good clinical findings in the patient’s first emergency contact, and effects of methyl alcohol through metabolites like formic acid and formaldehyde make us consider more careful story taking in Emergency Rooms because of probable delays in acquiring these findings which result from prolonged conversions up to 72 hours. Methyl alcohol poisonings usually take place when ethyl alcohol is not available or due to suicides and accidents among men between the ages of 30-40 (1,9) though our case was a 62 year old male patient.

As a result, in the cases of alcohol-dependent patients who admit to emergency rooms for methyl alcohol poisoning, doctors should not only consider problems related to central system, gastro-intestinal system and vision, but also they should look for complaints like shortness of breath as it is a sign for differential diagnosis not just for men between 30-40, but also for male patients in their 60s. With this case report, we aimed to shed light and draw attention to the prolongation of clinical findings and mislead prognosis (up to 72 hours) due to delays in metabolite formation and to reasons of hiding alcohol addiction history for social reasons.

Best regards.

REFERENCES