COMPLICATIONS OF ETHANOLIC WITHDRAWAL IN HOSPITALIZED PATIENTS

Cristina Dimofte1, Lavinia-Alexandra Moroianu2,3, Cecilia Curis4, Valeriu Ardeleanu45, Sergiu Chirila5, Marius Moroianu4,6

ABSTRACT

Chronic alcohol consumption, also called alcoholism, is a chronic disease characterized by compulsive alcohol consumption, loss of control over alcohol consumption and a negative emotional state in the absence/lack of consumption. Statistics show that the incidence of alcohol consumption in the adult population has been increasing during the isolation due to the pandemic. It is frequently associated with the consumption of other substances, in which case mortality is higher than in the case of single alcohol consumption. The patterns of alcohol consumption are varied, being related to a series of demographic, social, psychological and behavioral variables. The most worrying aspect of alcohol consumption is represented by the increase in the frequency of this type of addiction among teenagers and young people. It should also be mentioned that there is an increase in the incidence in females and there are new variables related to the context of consumption: increased boredom, alcohol consumption for the purpose of relaxation and alcohol consumption as an activity in the absence of an entourage. During the pandemic, there was also the myth that alcohol consumption would be the basis for reducing the risk of contamination with the SARS CoV 2 virus, an aspect disproved by specialist studies. The increased consumption of alcohol during the pandemic could be correlated with anxiety and depression determined by the fear of illness and depression due to the loss of the job, the lack of social relations or online education, being unanimously accepted that alcohol has an anxiolytic role. Regarding ethanolic withdrawal (EW) symptoms, studies show that approximately 50% of patients with chronic alcohol consumption will develop withdrawal symptoms when they reduce the quantity of alcohol or stop drinking alcohol.

Keywords: alcohol, addiction, delirium tremens, relapse, socio cultural profile

Introduction

Since ancient times, the consumption of alcohol at various events has been a behavior found in all social classes, regardless of financial status or status in society. In some cultures, alcohol was used to treat various ailments, being considered a medicine with various therapeutic properties (1).

The abuse of a substance is defined as a maladaptive pattern that will lead to the appearance of dysfunctions on different levels: on a family, occupational, social level, and even on a physical level through the subsequent installation of addiction, which is characterized by the presence of tolerance and withdrawal. Alcohol is known to be the most used substance for addictive purposes among the population (2).

It is important to establish a boundary between normality and mental disorders caused by the consumption of alcoholic beverages because this behavior requires adequate and long-term treatment. An important role in this approach is attributed to the patient’s awareness of the need for specialized help and support from the family. Among the psychiatric disorders determined by alcohol consumption, there is also the anxiety-depressive disorder (3). It is also recognized that
chronic alcohol consumption cases a series of somatic diseases, among which we can mention digestive (hepatitis, liver cirrhosis), metabolic (diabetes, malnutrition) or dental diseases (4).

**Materials and Methods**

We present a retrospective study done for a period of 5 years (1st of January/2016- 31st of December/2020) and included 182 from “Elisabeta Doamna” Psychiatric Hospital, Galați. We including the cases diagnosed at admission or during the hospitalization with complicated or uncomplicated ethanol withdrawal (EW).

The inclusion criteria applied for the patients in the study were: patients with diagnosis of EW, patients aged between 20 and 77 years for which were taken into consideration the observation sheets and medical file from the computer system.

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of Elisabeta Doamna Psychiatry Hospital (11566/15.10.2020) for studies involving humans.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

**Results and discussions**

From 186 patients enrolled in the study, males were predominant (86%) versus females (14%) (Table 1).

<table>
<thead>
<tr>
<th>Table 1. Descriptive table of our 182 patients</th>
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<tbody>
<tr>
<td>Women/ Men</td>
</tr>
<tr>
<td>Urban Area/ Rural Area</td>
</tr>
<tr>
<td>Illiterate/ Educated</td>
</tr>
<tr>
<td>With/ without insurance</td>
</tr>
<tr>
<td>Married/ single, partnership</td>
</tr>
<tr>
<td>Uncomplicated EW/ Complicated EW</td>
</tr>
<tr>
<td>Favourable evolution/ Death</td>
</tr>
<tr>
<td>Relapse/ No relapse</td>
</tr>
</tbody>
</table>

70% of the patients were from the rural area, whilst 30% represented the hospitalized patients from the urban area. Taking into account the fact that alcoholism in rural areas is considered to be a social and cultural habit, this aspect may underlie the increased prevalence of rural patients (Table 1).

Figure 1 shows the histogram of the distribution of patients by age group, and thus it can be seen that out of the 182 patients included in the study, mainly patients between the ages of 40 and 60 were hospitalized, the average being 47 years with standard deviation of +/- 11.91.

A study carried out in Italy with the aim of observing changes in eating habits determined by the COVID-19 pandemic and implicitly by social isolation, was carried out in a population of 7,847 respondents, with a mean age of 48.6 years and a standard deviation of +/- 13.9 (5).

Even if the type of addiction between the two studies is different, the average age is almost the same. 17% of respondents increased their alcohol consumption during the COVID-19 pandemic, this increase being observed among men with higher education, the environment of origin being the urban one, this that are opposite from our study (5).
Statistics show that the incidence of alcohol consumption in the adult population has been increasing during the isolation due to the pandemic. Analyzing Figure 2, it can be seen that most patients were hospitalized in 2020 (55 patients), followed by 2017, 36 patients. In 2016 and 2019, 34 patients. On the opposite pole, the fewest patients with EW were hospitalized in 2018, 23 patients.

A study on the evaluation of the effects of quarantine on diet and daily habits during the COVID-19 pandemic was conducted in northern Italy in a rural population in 2021. The study was conducted among 359 subjects, through a telephone interview, with the aim of observing the changes that occurred in terms of the lifestyle of these people during the quarantine period. Thus, an increase in alcohol consumption was found among the participants in this study, as well as an increase in the consumption of: sweets, coffee and carbohydrates (2,6).

54 of the patients (30%) completed only the primary cycle, 44 of the patients (24%) completed the secondary cycle, and a percentage of 38 of the patients (21%) is represented by the patients who have vocational school. Also, following the analysis, it appears that illiteracy is found in 31 of the patients (17%) of the patients included in the statistics. At the opposite pole, 6% of patients attended high school, while a percentage of 3% attended university study programs (Figure 3).

Contrary to the study carried out in Italy regarding the impact of social isolation on the population during the COVID-19 pandemic, in which most respondents had high school and/or university education, it is noted that in our study, the majority of patients completed only the primary cycle in a percentage of 30%, the opposite pole being represented by the completion of higher studies (5).

The percentage of patients without occupation or stable job was 58%. Analyzing the graphic representation, it is appreciated that 14% of the patients benefit from social assistance, and 16% are pensioners. From the category of those who are employed, 12% were admitted to the hospital with the diagnosis of EW, characteristics also validated in the study by Moore Thomas et al. (7).

117 patients are single or cohabiting, while 65 of the patients were married or in a relationship.

WHO stated in a report in 2018 that a harmful consumption of alcohol led to an incidence of approximately 3 million deaths in 2016 alone, respectively 5.3% of all deaths worldwide, most occurring in male patients (8).

As in S. Grover’s study, we demonstrated in our study conducted on the group of 182 hospitalized patients, the fact that more than half, respectively a percentage of 67%, presented EW syndrome complicated with delirium tremens (DT) (Figure 4) (9,10).

The author Emmanuel Mangkornkaew et al., conducted a 10-year cohort study, between January 1, 2006 and June 1, 2016 in Denmark, including in the study 2,130 patients who presented to the emergency room, being diagnosed with disorders of consumption of alcoholic beverages (11). The main objective of the study is to recognize potential predictors regarding the possibility of relapse in the case of
these patients. It is recognized that relapses can lead to severe effects with resounding throughout the body and with an increased incidence of death (12).

The results of our study highlighted the fact that: 22% of patients had relapses during the study period, the significant predictors that determined the occurrence of relapses being: young age, family status of cohabitation, performing short-term studies, personal pathological antecedents of psychiatric diseases, the establishment of the long-term therapeutic plan and the premature abandonment of the treatment (11).

In relation to the pandemic context, it can be stated that an increased incidence of depression, anxiety, stress and indomnia has been reported in combination with the increase in the consumption of alcohol and other drugs (13).

In Table 2, the descriptive analysis of complications and associated comorbidities was performed in the 182 patients included in the study.

<table>
<thead>
<tr>
<th>Complication</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
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<tbody>
<tr>
<td>Polydeficiencies, group B vitamin deficiencies, alcoholic hepatitis, liver cirrhosis</td>
<td>81</td>
<td>44,5</td>
<td>44,5</td>
</tr>
<tr>
<td>Respiratory diseases, cardiovascular diseases</td>
<td>36</td>
<td>19,8</td>
<td>64,3</td>
</tr>
<tr>
<td>Toxic encephalopathy</td>
<td>15</td>
<td>8,2</td>
<td>72,5</td>
</tr>
<tr>
<td>Psychiatric affections</td>
<td>16</td>
<td>8,8</td>
<td>81,3</td>
</tr>
<tr>
<td>Polyneuropathy, nervous system degeneration</td>
<td>23</td>
<td>12,6</td>
<td>94,0</td>
</tr>
<tr>
<td>Anemia</td>
<td>11</td>
<td>6,0</td>
<td>100,0</td>
</tr>
<tr>
<td>Total</td>
<td>182</td>
<td>100,0</td>
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</tbody>
</table>

In addition to the complications described in EW complicated with DT and/or seizures (RF), patients presented: liver disorders, polydeficiencies of nutritional elements (especially deficiencies of B vitamins), respiratory disorders, damage to the central nervous system by toxic alcoholic encephalopathy, damage to the nervous system (polyneuropathy), anemia.

Complications and comorbidities among our 182 patients included in the study were represented by: alcoholic hepatitis, liver cirrhosis, as well as nutritional deficiencies, especially by deficiency of vitamins from the B complex. These conditions are found in 44.51% from patients. Also, respiratory (respiratory insufficiency, pneumonia) and cardiac (arterial hypertension, ventricular fibrillation, cardio-respiratory arrest) diseases occupy the 2nd place in the ranking of complications and comorbidities, in a percentage of 19.78%. In a percentage of 12.64%, patients presented the degeneration of the nervous system caused by alcohol consumption, as well as polyneuropathy (Figure 5).

According to the author Sadowski, a chronic consumption of ethanol can have harmful effects on the central and peripheral nervous system. It can thus be observed that alcoholic neuropathy is present in patients with chronic alcohol consumption disorder, this being one of the most frequent adverse effects that can be observed. The symptoms that appear are represented by: pain, paresthesia, ataxia in the lower limbs. Following the aforementioned author’s meta-analysis, he specifies that up to 66% of patients with chronic alcohol consumption disorders may present with polyneuropathy. Contrary to the statements of the author Sadowski, we found that only a percentage of 13% of the 182 patients included in the study group have degeneration of the nervous system and polyneuropathy. On the opposite side, the most common complications in these patients are represented by polycarcinomas, as well as liver diseases, in a percentage of 45% (14,15).

Regarding our study, on the contrary to the author mentioned above, we observed, following
the analysis of the incidence rate of relapses, a percentage of 46%. By comparison with the results of the study carried out in Denmark, an increase in the incidence rate of relapses is also observed (11).

A careful assessment by the medical staff at any presentation to the emergency room can be decisive for the recognition of chronic alcohol consumption that sooner or later will be complicated by withdrawal. An effective way of recognizing chronic alcohol consumption by the patients is represented by the correctly conducted anamnesis and gaining the patient’s trust, one of the useful tools in trying to give up this type of addiction is the motivational interview (12).

Conclusions

Most patients diagnosed with complicated EW syndrome were hospitalized in 2020, about 1/3 more compared to the previous year of the study, for which we can consider that the isolation and quarantine during the pandemic have a direct involvement in these alcoholic patients.

The profile of the patient diagnosed with EW complicated by DT/RF is outlined as follows: male patient, from the countryside, aged approximately 47 years, with primary education, with no insurance, occupation and not married.

The main complication of EW was DT, found in more than half of the patients included in the study, followed by RF and 12% of the patients died, death being the most severe EW complication.

In patients with complicated EW with DT/RF, death occurred through cardio-respiratory arrest on the first day of hospitalization, in most patients in whom death occurred, so day 1 can be considered a so-called vital threshold.

Relapses occurred in approximately half of the patients included in the study, and the profile of such a patient is characterized by: age between 20 and 77 years, family status of cohabitation/unmarried, with primary education, with personal pathological antecedents of psychiatric diseases (organic personality disorder, organic affective disorder), with premature abandonment of treatment.

Most patients presented themselves at the emergency room in 2020 (30%), compared to previous years, which is why we can consider that in the year of the COVID-19 pandemic, alcoholism had an increased incidence.

References


