

Research Article

Alcohol-Related Oral Cancer Deaths: A Strong Association between Alcohol Abuse and Cancer Mortality

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Abstract

The evidence of a strong association between chronic alcohol consumption and cancers, such as tumors of the oral cavity, pharynx, larynx and the esophagus, has existed for several years. Moreover, evidence of strong association between alcohol and cancer-related mortality is also well known. The purpose of this study was to determine the prevalence of alcohol-related mortality, cancer-related mortality and any association between the two conditions in a Hungarian village. The medical records and the cause of death of patients registered with the Clinic were analyzed retrospectively. A total 829 deaths were recorded between 1987 and 2011 (445 men and 384 women). Out of these 278 (241 men, 37 women) were alcohol-related, 211 (140 men, 71 women) were cancer-related and alcohol-related cancer deaths was 82 (76 men, 6 women). More than half of the cancer mortality cases were alcohol-related. The number of deaths caused by malignant neoplasm of the oral cavity, and the pharynx was 21 out of 82, and these occurred only in alcohol-addicted men. The data confirmed that the association between alcohol abuse and cancer is strong. Reduction in excessive alcohol consumption might be an important step in cancer prevention.

Keywords

- Alcohol-related mortality
- Cancer mortality
- Oral cancer
- Hungary
- Rural practice
- Prevention

INTRODUCTION**Alcohol consumption and its consequences**

Alcohol consumption is deeply embedded in human societies throughout the world and it has been recorded in the entire human history. Following the Second World War, alcohol consumption has greatly increased. Several reports have documented the various complications associated with its use [1]. Current scientific studies and several organizations have clearly demonstrated that alcohol-abuse/alcoholism is one of the biggest health problems in the world and a cause for the increase in cancer related mortality [2-5].

Europe has the highest alcohol consumption in the world [6,7]. In many countries of Central and Eastern Europe there is evidence of high alcohol consumption and its associated problems. Alcohol consumption in Hungary is traditionally one of the highest amongst these countries [8] and it is particularly high in villages, where this epidemiological data were collected.

Previous studies by the author have concluded each time, that the health implications of the heavy, dangerous or pathological alcohol intake is one of the most important health problems of this village [9-12].

The aim of this study, therefore, is to examine the association between alcohol abuse and oral cancer mortality.

MATERIALS AND METHODS**Description of the settlement and practice**

The village, where the author worked as a general practitioner from December 1986 until now, is located in the Southern part of Hungary. It is an agricultural community with a population of 2,158 on the 1st of January 1987 and approximately 1,930 by the end of December 2011. The village has a network of paved roads, pipe water, gas and cable television. Prior to 1989, unemployment was "unknown" in Hungary (and also in the village), however, following the "change of regime" at the beginning of 1990, and with the implementation of a "capitalism", it suddenly became a hard reality. Currently, many young, middle-age men and women are employed abroad (mostly in western countries) and about 100 real estate properties are for sale. The inhabitants are ageing continuously with extremely low birth rate. The trend of the natural increase in population is thus in the negative spectrum. The „negative migration” has also an adverse effect on the population trend of the village. Alcohol use is common in the life of many people (mostly men) in the community. There are numerous pubs, drink shops and the black market for liquor from several Eastern European countries also prospers in this region.

The practice (Clinic) is the only and the main healthcare provider in the village. Health care services obtained elsewhere and deaths are made known to the Clinic.

Data collection

All medical records patients [(e.g. history, diagnoses, laboratory parameters, causes of death (if any))] are stored in cardboard files/computer. In the case of death, all important clinical history details were kept, and collected in a separate booklet from year to year. When the patient files contained diagnosis of cancer and alcohol dependence, or long-term heavy drinking, the cause of death is thus supported by evidence and facts. The total number of cancer deaths, with or without association with alcohol were retrieved from this database and eventually tabulated.

RESULTS

On the 1st of January 1987, the number of the inhabitants of the village was 2,158. 52% of them were females and 48% were males; 24% of the men and 30% of the women were over the age of 60 years. Life expectancy was above the national average by approximately one-third in the village. Those who lived over the age of 80 years were two times higher than the national average. On the 31st of December 2011, the number of villagers was about 1,930, though the percentage of females and males were nearly constant during the research period because the population was ageing. The practice population was approximately 250 less than the village-population all the time. The calculated mean practice population during the 25-year-long research period was approximately 1,750. During a quarter of a century, altogether 829 patients died among the “cleaned” practice population. The mean annual mortality rate was 33. Out the dead, 384 (46%) were females and 445 (54%) males. The proportion of total deaths, which occurred over the ages of 60 years, was 81% (672 cases), among women 41% (343 cases), and 40% (329 cases) among men. The percentage of total deaths, which occurred between the ages of 35 and 59, was 16% (135 cases) out of which 4% (35 cases) were women and 12% (100 cases) men. 3% of all deaths occurred under the ages of 35. During the examined period, 34% of all deaths (278) were alcohol-related; from this, 13% (37) occurred among women and 87% (241) among men. The proportion of alcohol-related deaths, which occurred under the ages of 60 years, was 32% (77) among the male population, and was 68% (164) in men over the age of 60 years. The prevalence of malignant tumors (cancers) as the underlying cause of death was 25% (211); from this, 34% (71) occurred among women, and 66% (140) among men. The proportion of cancer deaths, which occurred under the age of 60 years, was 26% (36) among men and 74% (104) in men over the ages of 60. Table 1 shows alcohol-related mortality between the 1st of January 1987 and 31st December 2011.

Table 2 shows cancer mortality (within the alcohol-related cancer mortality) in the village between the 1st of January 1987 and the 31st of December 2011 by age and gender.

DISCUSSION

This epidemiological study conducted by the author is based on the continuous observations of patients and the diagnosis of causes of death in a Hungarian village. The alcohol-related mortality in relation to cancer mortality was nearly at the same level as the alcohol-related mortality in relation to total mortality in both genders. This proportion was several times higher among men when compared to women. There was a significant overlap between alcohol-related mortality and cancer mortality.

Table 1: Alcohol-related mortality between the 1st of January 1987 and 31st December 2011 in the village in conformity with leading cause of death.

Leading cause of death	Number
Cancer:	82
Tongue, oral cavity, pharynx	21
Head and neck (connective tissue)	1
Esophagus, stomach, liver, pancreas	12
Lowes gastrointestinal tract	12
Larynx	1
Lung	21
Mediastinum	1
Other (bladder, prostate, ovary, cervix, brain, lymphoma)	13
Hepatic cirrhosis	48
Chronic hepatitis	6
Alcoholic cardiomyopathy	18
Alcohol-dependence	18
Suicide	13
Trauma (polytrauma)	13
Other accidents (electric shock, CO-intoxication, drowning)	5
Murder	3
Other (myocardial infarction, encephalomalacia, COPD, etc.)	72
Sum total	278

The cancers in certain localizations, especially those of the oral cavity, pharynx, and esophagus, represented the category of the “alcohol-related cancer mortality”. The number of oral cancer deaths was 21. These cancers as the cause of the death occurred solely among alcohol-addicted men. In the patient’s history, excessive smoking was also noted. All of these patients attended the clinic in the advanced stage of the cancer. It is very curious, that the local dentist did not observe these dental cancers during his 20-year-long practice in the village. This implies that these former patients were typical alcohol-addicted, “don’t-care-a-hang fellow” patients. Literature reports have shown that Europe has the highest alcohol consumption in the world, and Hungary among the European countries, is traditionally one of the biggest “alcohol-infected” area of the continent and therefore, Hungary was called the “sick country of Europe” [13], an “alcoholic holocausted” country [10]. This study was conducted in a village, where the population is continuously decreasing and ageing. Although alcohol consumption and smoking have decreased in the last two decades, yet alcoholism and its associated problems are permanently affecting the population.

The World Health Organization has reiterated that the maintenance of efficient health system and healthy lifestyle in our societies will be a failure until our societies find the solution to the challenge of alcoholism/alcohol abuse. Although some reports indicate that alcohol-abuse is “only” a risk factor relating to health

Table 2: Cancer mortality (within it the alcohol-related cancer mortality) in the village between 1st January 1987 and 31st December 2011 by age and gender.

Age	Male			Female			Together		
	No.	From: alc-rel.	%	No.	From: alc-rel.	%	No.	From: alc-rel.	%
Under 18	0	0	0.0	1	0	0.0	1	0	0.0
19-34	0	0	0.0	2	0	0.0	2	0	0.0
35-59	36	27	75.0	11	3	27.3	47	30	63.8
Over 60	104	49	47.1	57	3	5.3	161	52	32.3
Sum total	140	76	54.3	71	6	8.5	211	82	38.9

Abbreviations: No: number; alc-rel.: alcohol-related

issue, it is worth noting that alcoholism itself is a chronic disease like diabetes mellitus. It has been said that even though the health system is not capable of solving the problem of alcoholism, it is its responsibility to fight against it [14-16]. Whereas currently there are no medical-technical difficulties, neither in the early detection nor in the early intervention of alcohol-related health problems, the efficacy of these instruments is strongly limited. This can be compared to a fight by David against Goliath.

CONCLUSION

In summary, the data of these 25-year-long epidemiological study shows, that alcoholism is frequent in this Hungarian village and contributes to the high cancer mortality of the inhabitants, especially in men. There is a significant association between alcohol abuse and cancer related morbidity and mortality. If we can fight against alcohol-abuse/alcoholism more successfully, we can also be effective in the field of cancer prevention.

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