

THE INFLUENCE OF WINE CONSUMPTION IN FRACTURES COMPLEXITY

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Abstract: The purpose of this study is to determine a relation between wine consumption and bones structure, especially the relation with the complexity of the fracture trajectories. As we have shown in our previous articles, in wine chemical composition there are a series of metabolically active compounds, especially at vascular level. Therefore, there is a higher probability that at least a part of these compounds influence, in one way or another, the stage of vascular invasion of the fibrous callus. This study included a number of 121 cases who came at the emergency service with fractures at the level of the inferior extremity of the radius. To quantify the fracture trajectory and the degree of displacement of the fragments, the Kapadnji classification (1988) was used, which divides the fractures of the distal extremities of the radius in 12 types. We observed that the frequency of simple fractures is higher in the cases who declared to be wine consumers, which leads to the idea that bone resistance is higher among this population.

Cuvinte cheie: consum cronic de alcool, compoziția vinului

Rezumat: Obiectivul acestui studiu a fost stabilirea unei relații între consumul de vin și structura osoasă, dar mai ales legătură cu complexitatea traiectelor de fractură. Așa cum am arătat în articolele anterioare, în compoziția chimică a vinului sunt prezenți o serie de compuși metabolic activi mai ales la nivel vascular. Prin urmare, există o probabilitate crescută ca măcar o parte dintre acești compuși să influențeze într-un mod sau altul faza de invazie vasculară a calusului fibros. În prezentul studiu au o fost incluse un număr de 121 cazuri care s-au prezentat în serviciul de urgență cu fractură la nivelul extremității inferioare a radiusului. Pentru cuantificarea traiectului de fractură și a gradului de deplasare a fragmentelor, a fost utilizată clasificarea Kapadnji (1988), care împarte fracturile extremității distale a radiusului în 12 tipuri. Am observat că frecvența fracturilor simple este mult mai mare în rândul cazurilor care declarativ sunt consumatoare de vin, ceea ce conduce la ideea că rezistența osoasă este mai mare în rândul acestei populații.

INTRODUCTION

The purpose of this study is to determine a relation between wine consumption and bones structure, especially the relation with the complexity of the fracture trajectories.

As we have shown in our previous articles (1,2), in the wine chemical composition, there are a series of metabolically active compounds, especially at vascular level. Therefore, there is a higher probability that at least a part of these compounds influence, in one way or another, the stage of vascular invasion of the fibrous callus

PURPOSE

In the present study, we set forth to determine whether or not there is a relation between the complexity of the fracture trajectories and their displacement for the fractures of the inferior extremity of the radius and wine consumption.

METHODS

This study included a number of 121 cases who came at the emergency service with fractures at the level of the inferior extremity of the radius. Evaluation sheets were filled in for all cases. These evaluation sheets quantified whether or not the patient is a wine consumer, the type of wine ingested (own production or not), age, the intensity of the traumatic factor, the

rural or urban environment of the patient. To quantify the fracture trajectory and the degree of displacement of the fragments, the Kapadnji classification (1988) was used, which divides the fractures of the distal extremities of the radius in 12 types:(3)

- Type 0 – fracture without displacement;
- Type 1 - simple fracture of the inferior extremity with posterior displacement (Pouteau-Colles) with or without the fracture of the cubital styloid;
- Type 2 – fracture of the inferior extremity with comminution at the level of posterior cortical with or without the third fragment;
- Type 3 – fracture with T in frontal plan, or bimarginal;
- Type 4 – fracture with T in sagittal plan;
- Type 5 – simple or complex fracture of radial styloid;
- Type 6 – posterior marginal fracture;
- Type 7 – anterior marginal fracture;
- Type 8 – anterior tilted fracture (Goyrand-Smith);
- Type 9 - comminutive fracture (T in sagittal and frontal plan);
- Type 10 – fracture of the inferior extremity of both bones of the forearm,
- Type 11 – fracture occurring on a vicious callus.

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RESULTS AND DISCUSSIONS

Regarding the batch under investigation, out of the total of 121 cases, 82 (67,76%) came from the rural environment and 39 (32,24%) from the urban environment. 16 (13,22%) came to the emergency service under the influence of alcohol, namely 14 (17,07%) from the rural area and 2 (5,12%) from the urban area. 61 (74,39%) cases from the rural area declared a daily consumption of wine, while only 12 (30,76%) cases from the urban area declared the same. From the previously mentioned data, one can notice a high incidence of wine consumption in the rural population. Over half of the interrogated cases specified that the wine came from their own production, without using a special fermentation technique.

In the population coming from the rural area, the distribution of the fractures depending on the Kapandji classification was as follows: type 0 – 8 cases (9,75%), type 1 – 19 cases (23,17%), type 2 – 17 cases (20,73%), type 3 – 2 cases (2,44%), type 4 – 3 cases (3,65%), type 5 – 5 cases (6,09%), type 6 – 4 cases (4,88%), type 7 – 3 cases (3,65%), type 8 – 2 cases (2,44%), type 9 – 16 cases (19,51%), type 10 – 2 cases (2,44%), type 11 – 1 case (1,22%).

In the population coming from the urban area, the distribution of the fractures depending on the Kapandji classification was as follows: type 0 – 2 cases (5,12%), type 1 – 3 cases (7,69%), type 2 – 3 cases (7,69%), type 3 – 8 cases (20,51%), type 4 – 7 cases (20,51%), type 5 – 2 cases (5,12%), type 6 – 0 cases (0%), type 7 – 0 cases (0%), type 8 – 0 cases (0%), type 9 – 10 cases (25,64%), type 10 – 2 cases (5,12%), type 11 – 2 cases (5,12%).

By analyzing the previously mentioned data, we can notice a higher incidence of cases of simple fractures in the population who declared to be daily wine consumers. These data also show that for the patients coming from the rural area and who are wine consumers, the mechanism of production for type 9 fractures from the Kapandji classification, are high energy traumas (falls from height, road accidents), while for those coming from the urban area, this type of fracture appears only after a low energy trauma (falls from the ground level).

With regard to the wine consumption, it cannot be quantified exactly, since the data are collected from cases with a low educational level, and the types of wine fail to have an exact formula.

CONCLUSIONS

Taking into consideration the previously reported results, we can assert the following conclusions:

- There is a high incidence of wine consumption among the cases coming from the rural area. The population mainly consumes internally produced wine;
- The frequency of simple fracture is higher in the cases who declared to be wine consumers, which leads to the idea that bone resistance is higher among this population;
- Comminutive trajectories are met among the wine consuming population in general after high energy traumas;
- It is difficult to quantify the amount of wine consumed by the population coming from the rural area (probably it is in close relation with the educational level);
- For an accurate appreciation of the influence of the wine consumption, two conditions are necessary: a standardization of wine (the determination of a standard formula which may be used on random trials)

and the approach of the research at the molecular level (fundamental research).

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