EDITORIAL

Wine: is it really healthy?

El vino: ¿es realmente saludable?

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Humanity has consumed fermented beverages since ancient times. Residues of beer from approximately 10,000 years ago have been found in a cave in Israel and remains of white and red wine (Shedeh) in the amphorae of the famous tomb of the Egyptian pharaoh Tutankhamun, who died in 1325 BC and left amphorae with wine as sustenance on his journey to the afterlife.[1] There are, therefore, numerous archaeological finds that demonstrate that humans have consumed alcoholic beverages for thousands of years. The damaging effects of excessive consumption of alcoholic beverages have also been known for years. In this context, the book of Genesis 9:20-27 describes one of the first episodes of the damage excessive alcohol consumption can cause. Genesis explains that after abandoning the Ark, Noah planted a vineyard, made wine, got drunk, and fell asleep naked inside his tent, a fact that created a great dispute between his sons Shem and Ham. Since then, no one doubts that excessive alcohol consumption leads to serious medical complications, such as acute alcohol poisoning, alcohol dependence and withdrawal syndromes, liver cirrhosis, different pancreatopathies, high blood pressure, strokes, alcoholic cardiomyopathy, arrhythmias. Cardiac events and sudden death, among others.[2–4] However, it is also true that for many years society has attributed healthy characteristics to the moderate consumption of alcoholic beverages, especially the consumption of wine.

It was not until the beginning of the 20th century, though, that the beneficial effects of alcohol consumption on the cardiovascular system began to arouse great scientific interest when it was observed that patients who died of liver cirrhosis of alcoholic origin had completely healthy arteries, without the atherosclerotic lesions that would correspond to them due to their age. Since then, more than 100 cohort studies and numerous meta-analyses have been published, some including more than two million subjects and analysing nearly 100,000 cardiovascular complications, which conclude that the relationship between alcohol consumption and mortality follows a curve in ''J''. This means that abstainers have a higher mortality than those who consume alcohol moderately and these, in turn, have a lower mortality than those who consume excessive amounts of alcohol. The lowest mortality is observed when consumption is approximately half a drink per day (6 g of alcohol), with a reduction of around 20% in the risk of death. However, from 4 drinks a day for men and 2 drinks a day for women, the risk of dying exceeds the risk of abstainers and increases as daily alcohol consumption increases.[5–8]

However, there is no unanimity regarding the healthy effects of moderate alcohol consumption on the body, a fact that explains the disparity of opinions that exists in society, including doctors themselves, as seen in the article published by Espíldora-Hernández J. et al.[9] in this same issue and which concludes that only 20% of the doctors surveyed stated that a glass of wine a day could be healthy. Although the sample size is low (n = 186) and therefore the sample is not representative of the group of health professionals, it is still surprising that almost 60% of those surveyed responded that the consumption of wine should never be considered beneficial, although there is a ''non-harmful'' threshold.

This disparity of opinions may have contributed to the results of two articles carried out by the Global Burden of Disease (GBD) group and published in the journal The Lancet,[10,11] in which the effects of alcohol consumption were assessed in 195 countries and it was concluded that this consumption was responsible for 2.2% of deaths in women and 6.8% of deaths in men, without there being any threshold for this effect, that is, that the harmful effects of alcohol consumption occurred from the first drink. The results of these studies had a great impact in the press and motivated, for example, the majority of American citizens to consider that, according to a Gallup survey, moderate alcohol consumption is unhealthy.[12] However, in a recent meta-analysis of 107 prospective studies on the relationship between alcohol consumption and mortality from any cause, a significant reduction of 16% was found when daily alcohol consumption was between 1.3 and 25 g/d (P < .001), but reduced to a non-significant decrease of 7% (P = .08) when adjusting for all possible variables.[13] Likewise, the same GBD group in 2022 again reviewed the data they had available and after a new analysis they concluded the relationship between mortality risk and alcohol consumption actually followed a ''J'' curve for all regions of the world, but only for people 40 years or above.[14] Unfortunately, this new result, which was also published in The Lancet, did not have the media effect that occurred with the results of the 2019 analysis.

Given that study results are so disparate, we could ask ourselves how can so many differences between the conclusions of the studies conducted be explained? There is a certain consensus that the problem probably comes from the methodology used in the analysis of cohort studies. A first problem is the calibration of alcohol consumption in epidemiological studies. It is essential that the amount of alcohol consumed per day is truly ''moderate'', no more than 20–30 grams of alcohol per day for men and no more than 10–15 g of alcohol per day for women. It is well known that participants in this type of study tend to reduce the amount of alcohol consumed that they report in the questionnaires, so many excessive drinkers would fall into the category of ''moderate consumers.'' This problem could be minimised if the analysis of consumption biomarkers, generally in urine, were included in the studies, in addition to records in consumption questionnaires.[15] Another important aspect is the drinking pattern and being able to really specify that the consumption of the alcoholic beverage is daily and does not accumulate at the weekend. Consuming one glass of wine a day (7 glasses a week) is not the same as consuming the same amount on one or two days a week (binge drinking). The effects on the body can be diametrically opposite.[16] It is also important to differentiate the type of alcoholic beverage; Generally, the protective effects of red wine consumption (due to its high polyphenol content) are usually much higher than other alcoholic beverages.[17] Wine, especially red wine, has been shown to have a greater anti-oxidant and anti-inflammatory effect than other alcoholic beverages.[18] Likewise, it has also been observed that the health effects of wine are much greater when it is consumed with food and not on an empty stomach.[19] Finally, it is worth highlighting that the effect of wine consumption on cardiovascular disease and especially on the incidence of cancer, especially breast cancer in women, varies when wine is consumed within a healthy diet, such as the Mediter-

ranean diet, or it is consumed within a Western or less healthy dietary pattern. In a meta-analysis on the effects of the Mediterranean diet on the incidence of breast cancer, the food with the greatest protective effect turned out to be moderate alcohol consumption (wine), with a reducing effect of 11%, above the effects of fruit, vegetables and whole grains.[20]

In conclusion, there is numerous scientific evidence that supports the protective effect of moderate wine consumption, always within a healthy eating pattern such as the Mediterranean diet, on overall mortality and the incidence of the main chronic pathologies, such as cardiovascular disease, stroke, diabetes, degenerative diseases such as Alzheimer's and Parkinson's and some types of cancer. In fact, it is considered that 20% of the healthy effects of the Mediterranean diet are due to the moderate consumption of wine, one of the three basic pillars of this diet. These protective effects have been attributed to an improvement in the lipid profile (increase in HDL-cholesterol), increased nitric oxide synthesis (reduction in blood pressure), greater sensitivity to insulin (lower incidence of diabetes), and its antioxidant and anti-inflammatory effects, which are the basis of its anti-atherosclerotic effect, together with a reduction in platelet aggregation and an increase in the activity of the fibrinolytic system (lower incidence of thrombosis). However, until the results of prospective, randomized studies that evaluate the effects of long-term wine consumption on final ''hard'' variables are available, we will not be able to definitively answer the question that has been posed.

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