

## The pandemic and lockdown: some good reading on wine and health

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*Pandemic, COVID-19 and confinement* (lockdown) – words which have come to define 2020 and the major health crisis that has dominated it. How do we live with and adapt to a crisis, now and in the future, where the enemy we are fighting is invisible? Despite the history of mankind being liberally punctuated by deadly epidemics, no-one today expected to be confronted with this viral pandemic. The Latin word *virus*, meaning ‘poison’ or ‘toxin’, was introduced into modern French in the 16<sup>th</sup> century by the royal physician and medical pioneer Ambroise Paré. Each new virus is given a name and classified as belonging to a ‘family’. For example, members of the coronavirus family all share the same ‘crown’ shape. Crucially, a virus is an infectious agent requiring a vegetable or animal – including human – host. Although today all attention is focused on people, up to date some fifty or so viruses affecting viticultural vine-plants have been identified worldwide. The perpetual battle between viral pathogens and their hosts has long been recognized as an essential part of the biological evolutionary process.

Infection with the new coronavirus that first emerged in China as SARS-CoV-2 causes the disease called COVID-19 (Coronavirus Disease-2019) which has rapidly become a pandemic. The term ‘pandemic’ refers to the global propagation of a new disease. The *Académie Française*, that guardian of the French language and its use, recommends that *COVID-19* be considered a feminine noun. Although an acronym of foreign origin, *COVID-19* denotes a disease, and the French word for disease is *maladie*, which is feminine. Nor is the *Académie* happy with the phrase ‘*distanciation sociale*’, introduced as equivalent to the English ‘*social distancing*’, preferring instead ‘*des distances de sécurité*’ (‘safety distance’). Mankind has so far managed to live with and survive its viruses, but now, because of rapid and uninterrupted travel, a virus can cross entire continents in a matter of hours.

Now in France we find ourselves subjected to ‘*confinement*’ followed by ‘*deconfinement*’: two new concepts; the first with its burden of anxiety and fear, the second with its blessing of relief. Technically, ‘*confinement*’ refers to an ensemble of measures, principally restricting human contact at a local or national level, intended to safeguard public health. ‘*Deconfinement*’ on the other hand is a new word to add to the dictionary – we can only hope that it will not be joined soon by ‘*reconfinement*’.

*Wine and health*, two words of great symbolic resonance, nurtured and fostered in Burgundy by the great Louis Pasteur, to whose imaginative genius we are indebted for the discovery and development of modern vaccination techniques. Among his many oft-quoted remarks two in particular stay in the memory: “*Wine can be considered the purest and healthiest of beverages*” and “*There is more philosophy in a bottle of wine than in all books put together*”. Between 1866 (when Pasteur made these remarks) and the present (when vaccination has never been more *vitally* topical) medical progress has been spectacular, improving the quality of our lives and contributing to our happiness. For example, epidemiological studies over the last twenty years and more have consistently shown that a moderate consumption of alcohol, compared to higher levels or total abstinence, reduces cardiovascular risk. More recently big-data has proved to be a valuable source of new and important information about wine and health. And if such data is of particular interest to the authorities, it is even more acutely so to members of the Confrérie des Chevaliers du Tastevin! This period of *confinement* being an ideal opportunity for some ‘healthy reading’, we thought we might share with

you two major scientific studies: one dating back to 2006 but of particular interest to *Chevaliers*, and another published recently in the highly respected medical journal *The Lancet* (a lancet is a pointed double-edged surgical knife).

The connection between wine and health is an ancient one. Many of its mysteries have been gradually unraveled over time. For cardiologists, a key work was published in 2006 by a team of scientists led by Augusto Di Castelnuovo from Milan and Licia Lacoviello from Campobasso (a region famous for its wines, notably Moscato). This remarkable work brings together a large body of epidemiological data relating to 1,015,835 men and women (from Europe, the USA, China, Japan and Australia) studied over more than ten years, with no past history of cardiovascular illness, and led to the publication for the first time of the celebrated 'J-curve' showing that consumption of one or two glasses of wine per day for a woman and two to four glasses for a man was associated with an overall reduced mortality rate (fig 1).

Crucially, the curve remains intact even after adjustments made for factors traditionally linked to cardiovascular risk such as smoking, obesity, high cholesterol and hereditary cardiovascular disease. Consequently, the J-point (the optimal beneficial consumption level) has been the source of much heated debate, particularly around the size of the glass used in 'administering these daily doses' (why not adopt the tastevin as the International Standard Unit?).

The second study appeared in *The Lancet* which, along with numerous studies devoted to COVID-19, also publishes articles on different aspects of cardiovascular risk. The reality is that in industrialized countries strokes and coronary thrombosis are the first cause of death and morbidity, with an incidence much higher than deaths due to the infection which is currently causing so much havoc. The findings of PURE (Prospective Urban Rural Epidemiology Study) were presented in November 2020. The aim of the study was to evaluate the future effects of modifiable risk factors on cardiovascular disease and deaths in 21 countries. The study surveyed 155,722 participants with no history of cardiovascular disease. It evaluated cardiovascular morbidity and mortality in relation to 1) behavioral factors such as smoking, alcohol, diet, physical activity and salt intake 2) metabolic factors, in this case lipids, diabetes and obesity and high blood pressure 3) socio-economic and socio-psychological factors, including education, depression...4) domestic and ambient pollution. It was clearly shown that the main factors associated with a high risk of coronary thrombosis and cardiovascular mortality are related to metabolism (obesity, hypertension, high cholesterol levels), followed by domestic pollution and smoking.

One of the study's most original aspects is that it evaluated the population's alcohol consumption. The conclusions were as follows: 1) non-drinkers in industrialized countries account for 30.8% of patients, 2) ex-drinkers, 5.5% of the population, 3) occasional drinkers (1 glass per day), 45.7% of the population, 4) moderate drinkers (8 to 14 glasses per week for women and 8 to 21 glasses for men), 13.7% of the population, and 5) excessive-drinkers, 4.4%.

Most strikingly – and this is confirmed by all other studies – the only factor that offers protection against cardiovascular illness but also against death from all other causes, is a low to moderate consumption of alcohol. Together, low and moderate drinkers represent 60% of the population in the study and have a risk of developing cardiovascular disease inferior by 12 to 23% of the study's reference population; that is, non-drinkers. It should be underlined that similar results were found for deaths from all causes.

The PURE study once again confirms the protective effects of moderate wine drinking. This effect needs to be taken into account and correlated against other cardiovascular risk factors.

And if it turned out that compounds present in wine prevented the virus from penetrating the host's cells, in this case man? Experiments already carried out *in vitro* (i.e. in test-tubes) targeting polyphenols tend to confirm this could be the case – but it is a long road from experiments in the laboratory to clinical application.

In conclusion, in the debate about the precise relation between wine consumption and health the evidence from all sides must be carefully weighed. But, in the end, it is a question of measure and moderation. On that, the wine industry's defenders and detractors can agree.

“Friendliness”: now there's a word upon which we can all agree; and one that, in this period of “imposed” confinement, is more topical than ever... alas. Both culturally and on the practical level, the art of drinking and enjoying wine is indissolubly linked to friendliness, to social interaction; it's an art that traditionally revolves around the *transmission* of a certain *savoir-faire*. In these peculiar times dominated by COVID-19, enjoying wine has been reduced to ‘con-vinement’, a semi-solitary pastime that can never replace rituals based on human interaction or the symbolism of social bonds.

#### Legendes:

Figure 1: J-Curve showing that wine consumption limited to one or two glasses per day for women and two or four glasses per day for men, was associated with overall lower mortality

**Hommes Femmes** : Men Women

**Risque relatif pour la mortalité toutes causes**: risk of death relative to all other causes

**Bénéfice**: beneficial effect

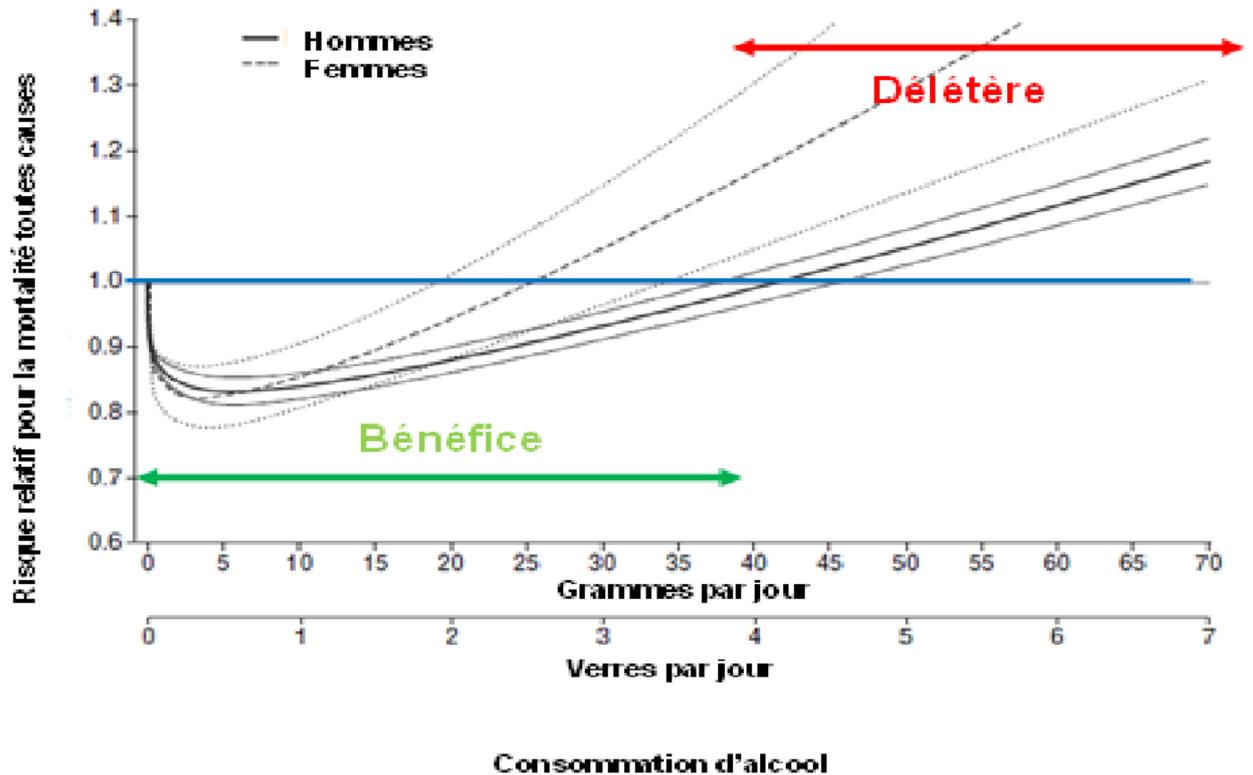
**Délétère**: harmful effect

**Grammes par jour** : grammes per day

**Verres par jour** : glasses per day

**Consommation d'alcool** : alcohol consumption

**Figure 1** : Courbe en « J » démontrant qu'une consommation de vin d'un ou deux verres par jour pour les femmes et deux à quatre verres par jour pour les hommes, était associée à une mortalité totale plus faible.



**Sources :**

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