

METABOLICALLY ACTIVE COMPOUNDS OF WINE BETWEEN MYTH AND REALITY

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Abstract: Given the fact that in Romania, the chronic alcohol consumption is a matter of public health and that the media has intensely published certain studies regarding wine consumption (the speculative, near-sensational conclusions are most of the times presented), a critical approach of these studies is necessary. All these studies have as a starting point the extremely complex composition of wine (rightfully associated with that of the blood). This extremely complex composition has become the object of thorough studies whose results have been included into various treaties of oenochemistry. But, it is from the same complexity that the trends of current researches derive. At the moment, there are two broad directions of study. The former is anchored at the level of fundamental research and approaches the effects of the metabolically active substances present in the composition of wine, their analysis including problems of molecular biology. The other line of research is represented by population-oriented studies, conducted especially by nutritionists, often based on questionnaires. As a conclusion, we state that a pragmatic approach of the research regarding the influence of metabolically active compounds of wine is necessary, as well as an explicit presentation of the conclusions of these studies before their dissemination in the media, because for the moment, the results of the research, especially if they are accompanied by spectacular conclusions, are heavily publicized.

Cuvinte cheie: vin, consumul cronic de alcool, compoziția vinului

Rezumat: Având în vedere, că în România, consumul cronic de alcool este o problemă de sănătate publică și ca presă din ultima vreme face o mediatizare intensă (sunt preluate în special concluziile speculative, la limita senzaționalului) a unor studii privind consumul de vin, este necesară o abordare critică a acestor studii. Toate aceste studii au ca punct de plecare compoziția deosebit de complexă a vinului (asemanată pe bună dreptate cu cea a sângelui). Această compoziție deosebit de complexă a făcut obiectul unor studii aprofundate a căror rezultate au fost concretizate în numeroase tratate de oenochimie. Dar, tot din această complexitate rezultă și tendințele cercetărilor actuale. În prezent, există 2 linii generale de studiu. Prima dintre ele rămâne la nivelul cercetării fundamentale și abordează efectele substanțelor metabolice active prezente în compoziția vinului, mergând până la elemente de biologie moleculară. Cealaltă linie de cercetare este reprezentată de studii populaționale, realizate în special de nutriționiști, bazate îndeosebi pe chestionare. În concluzie, afirmăm că este necesară o abordare cât mai pragmatică a cercetărilor privind influența compușilor metabolici activi ai vinului și o documentare adecvată a rezultatelor obținute. De asemenea, este absolut necesară o formulare cât mai explicită a concluziilor acestor studii înainte de diseminarea lor, deoarece la ora actuală, rezultatele cercetărilor, mai ales dacă sunt însoțite de concluzii spectaculoase, se bucură de o intensă mediatizare.

Given the fact that in Romania the chronic alcohol consumption is a matter of public health and that the media has intensely published certain studies regarding wine consumption (the speculative, near-sensational conclusions are most of the times presented), a critical approach of these studies is necessary. All these studies have as a starting point the extremely complex composition of wine (rightfully associated with that of the blood). Thus, depending on the technology used for fermentation, stabilization and aging, wines contain, in various concentrations, metabolically active substances such as: disaccharides, trisaccharides, glucidic mono and poly derivatives, mineral and organic acids, including essential amino acids, lipids, peptides, proteids, amides, aromatic acids, phenolic compounds, tannins, vitamins, enzymes, antioxidants, traces of

heavy metals etc. This extremely complex composition has become the object of thorough studies whose results have been included into various treaties of oenochemistry. But, it is from the same complexity that the trends of current researches derive. At the moment, there are two broad directions of study. The former is anchored at the level of fundamental research and approaches the effects of the metabolically active substances present in the composition of wine, their analysis including problems of molecular biology. The other line of research is represented by population-oriented studies, conducted especially by nutritionists, often based on questionnaires.

In the lines below, we shall exemplify a series of heavily publicized studies, their conclusions and some critical comments.

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A first example is constituted by the studies regarding the influence of wine consumption on breast cancer. Thus, the French researchers claim, in an ample study, that the daily consumption of wine, even in small doses, may lead to an increase of the risk of breast cancer by 5%. On the other hand, Charis Eng (Ohio) claims that given the rich content of antioxidants in wine and, especially due to the resveratrol, (considered one of the most powerful natural antioxidants) the incidence of breast cancer is lower in the female populations who take a small quantity of wine on a daily basis.

Another series of studies have focused on the influence of wine consumption on the bone density in older patients. Thus, some authors strongly believe that the people who drink daily some wine have an increased bone resistance as compared to the others who don't. However, after analyzing the traumatic pathology in our country for the elders and the associated pathology (especially chronic alcoholism) we notice an increased incidence of fractures for this category of patients, some authors assimilating chronic alcoholism with a risk factor for the hip fractures. It is therefore logical to take other nutritional factors into account, beside the chronic consumption of wine.

Another spectacular claim was that a glass of wine counteracts the effect of 2 cigarettes. Indeed, wine does contain substances that lead to reversal of the HDL and LDL cholesterol in the favour of the former, with effects that prevent the incidence and development of atheroma plaques. But what about the other toxic compounds of the cigarette smoke?

The influence that various wine compounds of wine have on the inflammatory processes and cellular adhesion has been certainly proved. Thus, there were studies that confirmed clinically the results. Nevertheless, there are numerous controversies in this line as well. Although it has been statistically proven that a moderate consumption of wine leads to a decrease of mortality following an acute heart attack and strokes and that it is a factor that normalizes blood pressure, for patients with hyper blood pressure, the effects of this consumption are extremely toxic.

As a conclusion, we state that a pragmatic approach of the research regarding the influence of metabolically active compounds of wine is necessary, as well as an explicit presentation of the conclusions of these studies before their dissemination in the media, because for the moment the results of the research, especially if they are accompanied by spectacular conclusions, are heavily publicized.

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