Alcohol: Myth, Magic and Migraine (part 1)
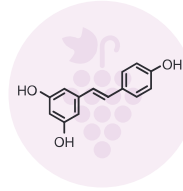
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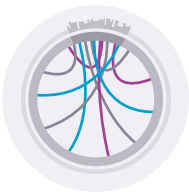
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We are not always objective when it comes to alcohol

Population Headache Population Trigger Map™ & Protector Map™

No other fluid in human society has inspired such a range of emotions and misbeliefs as alcohol – from mystical affection to outright vilification and prohibition. How does alcohol really affect humans and how can it act as a migraine trigger in certain individuals and a protector in others? In the joint studies Curelator Headache conducted with The Migraine Trust and National Headache Foundation, the data revealed that alcohol's impact varied greatly depending on the individual.

In this three-part article, we peel away myths and misconceptions that have grown up around alcohol, and explore a compelling answer to this question that resides in the genetic makeup of each individual, which affects their ability to metabolize alcohol.

Misconceptions about alcohol and beneficial health effects

In the 1990's data emerged from France apparently showing that men who drank red wine daily had lower death rates due to heart disease, despite having a relatively high fat diet. The observation was termed "The French Paradox" and the French wine industry and indeed the Western world in general rejoiced in the mystical magic of it all[1].

But the French Paradox did not represent the whole truth. Closer examination of epidemiological data revealed that one reason French men had lower death rates due to heart disease was that before they reached an age where heart disease became a risk, they were dying from other alcohol related diseases: liver cirrhosis, car accidents and cancer.

The final demystification of the French paradox was this: From 1999 to 2013 French domestic wine consumption dropped about 20%[2] and mortality from heart disease decreased about 50%[3]. Clearly, we would have expected the opposite effect, strongly suggesting factors other than wine were responsible for the French Paradox.

However, before near mystical hope in the beneficial health effects of red wine flamed out, it managed to seduce the pharmaceutical giant, GlaxoSmithKline and its armies of scientists and business people.

Here's what happened: In 2003, a Harvard Medical School laboratory publicized a chemical called resveratrol that seemed to activate a series of genes in yeast called, sirtruins, which appeared in some animals to be associated with longer lifespans. The fact that sirtuin genes are found in humans and their chemical activator, resveratrol, is also found in red wine ignited the excitement of the scientific and business worlds. A new biotechnology company, Sirtris Pharmaceuticals, was established to develop more potent drugs based on resveratrol's actions (otherwise you would need to drink about 1000 bottles of wine daily to get a reasonable dose). There were even suggestions that going to the gym could be replaced by drinking a glass of red wine.

A compound in red wine that prolongs life? It doesn't get better than that. Glaxo bought Sirtis for an astonishing $720 million cash. Soon after, however, the party degraded into a corporate hangover. In less than a decade, the New York Times' reporting sank from bright promise to bitter reality:

Promise:

2003 — The New York Times — Study Spurs Hope of Finding Way to Increase Human Life

2008 — The New York Times — Glaxo Says Compound in Wine May Fight Aging

2008 — The New York Times — Glaxo to buy Sirtris, maker of a drug based on red wine

2009 — The New York Times — Tests Begin on Drugs That May Slow Aging

Reality:

2011 — The New York Times — Doubt on Anti-Aging Molecule as Drug Trial Stops

2012 — The New York Times — University Suspects Fraud by a Researcher Who Studied Red Wine

The funny thing is that resveratrol is also found in the humble peanut – but we're fairly certain none of this nonsense would have happened had peanuts, instead of red wine, been cited as the source of the protagonist chemical. "Glaxo to buy Sirtris, maker of a drug based on peanuts"? $720 million? No way.

What is the moral of this story for migraineurs? Greet any news about the beneficial or negative effects of alcohol and migraine with skepticism, unless you have conducted a scientific experiment to determine how it applies to you, personally. We'll explain the genetic basis for this rationale in Part 2 of this article.

References:
[1]Renaud & de Lorgeril (1992). Wine, alcohol, platelets, and the French paradox for coronary heart disease. *Lancet*. **339**:1523
[2]International Organization of Wine
[3]World Health Organization, HFA Database