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The Pheonix Stroke Case study: Increased risks of the two types of stokesamong adults heavy consumers of Beer , Whisky , Wine and smokers from a non-consumer perspective; One side (1) *ischemic* and the other side (2)*hemorrhagic*stroke

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ABSTRACT: *The paper identifies what are the risks of ischemic (IS) and hemorrhagic stroke (HS) among beer, whisky and wine consumers and smokers among adults in the region of Pheonix regions . The gravity of Strokes are generally more severe in patients with HS. Within the first 3 months after stroke, HS is associated with a considerable increase of mortality, which is specifically associated with the hemorrhagic nature of the lesion[1]. Factors favoring ischemic strokes vs HS are diabetes, atrial fibrillation, previous myocardial infarction, previous stroke, and intermittent arterial claudication. Smoking and alcohol consumption favored HS, whereas age, sex, and hypertension do not herald stroke type. Compared with ischemic strokes, HS is associated with an overall higher mortality risk. Various studies [1] showed that high alcohol intake and smoking to be in favor of HS as compared to IS, whereas presence of diabetes, atrial fibrillation, previous myocardial infarction, previous stroke, and intermittent arterial claudication disfavors the likelihood of HS. Some studies have shown that moderate wine drinking reduces stroke but the debate is what is moderate drinking. Therefore it is not conclusive and misleading, misconception to say that wine is beneficial for the body. Alcohol and smoking both are dangers for human body and contribute to stokes.*

KEYWORDS: ***ischemic stroke (IS), hemorrhagic stroke (HS), alcohol, smoking, misconception***

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I. INTRODUCTION

A stroke [19] occurs when the blood supply to part of your brain isinterrupted or reduced, preventing brain tissue from getting oxygen and nutrients. Brain cells begin to die in minutes. A stroke isa medical emergency, and prompt treatment is crucial.The threemain types of stroke are: (a) Ischemic stroke. (b) Hemorrhagic stroke.Transient ischemic attack is a warning or "mini-stroke"Ischemicstroke. Infact this is the most common type of stroke. It happens when thebrain's blood vessels become narrowed or blocked, causing severely reduced blood flow (ischemia). Blocked or narrowed blood vessels are caused by fatty deposits that build up in blood vessels or byblood clots or other debris that travel through your bloodstreamand lodge in the blood vessels in your brain.Some initial researchshows that COVID-19 infection may be a possible cause of ischemic stroke, but more study is needed.Hemorrhagic stroke occurs when a blood vessel in your brain leaksor ruptures. Brain hemorrhages can result from many conditionsthat affect your blood vessels. Factors related to hemorrhagicstroke include:• Uncontrolled high blood pressure• Overtreatment with blood thinners (anticoagulants)• Bulges at weak spots in your blood vessel walls (aneurysms)• Trauma (such as a car accident).

Protein deposits in blood vessel walls that lead to weakness in thevessel wall (cerebral amyloid angiopathy) Ischemic stroke leadingto hemorrhage. A less common cause of bleeding in the brain isthe rupture of an abnormal tangle of thin-walled blood vessels (arteriovenous malformation).A transient ischemic attack (TIA) — sometimes known as a ministroke — is a temporary period of symptoms similar to those you would have in a stroke. A TIA doesn't cause permanent damage. They are caused by a temporary decrease in blood supply to part of yourbrain, which may last as little as five minutes. Like an ischemicstroke, a TIA occurs when a clot or debris reduces or blocks bloodflow to part of your nervous system. Seek emergency care even ifyou think you've had a TIA because your symptoms got better. It is not possible to tell if you're having a stroke or TIA based only onyour symptoms. If you've had a TIA, it means you may have a partially blocked or narrowed artery leading to your brain. Having aTIA increases your risk of having a full-blown stroke later.Comparisons between hemorrhagic (HS) and ischemic stroke (IS) in respect to prognostic determinants are hampered by the disproportionate distribution of the 2 types of stroke, with IS being 10-times more frequent than HS in Western countries. Even in large stroke cohorts absolute numbers of HS are low, rendering statistical validation of differences between the 2 types of stroke difficult. [2,3,4]. HS are considered to have a higher mortality risk than IS. Previous studies have linked the excess mortality to the generally more severe strokes in patients with HS, whereas stroke type per se was not considered to be associated with mortality. Numbers in these studies were,

however, few. Some risk factors are common for both HS and IS.[5,6.] The association of atrial fibrillation, ischemic heart disease, and diabetes with IS seems well-established in comparative studies, but the relative role of risk factors such as hypertension, smoking, and alcohol consumption remains controversial.[7-10]. An ongoing nationwide Danish stroke registry1 was established in March 2001, with the aim of registering all patients hospitalized with acute stroke. Knowledge on the relative role of risk factors in hemorrhagic vs ischemic strokes is still inconsistent.

II. DISCUSSION

In the population based case-controlled Perth study[11] (n536), hypertension and diabetes favored IS and high alcohol intake favored HS, whereas smoking did not favor either of the stroke subtypes. In another population-based observational study[12] (n1254) increasing age, previous stroke, and diabetes favored IS,whereas ischemic heart disease, atrial fibrillation, hypertension, alcohol intake, and smoking did not favor either of the stroke subtypes. In the hospital-based Copenhagen Stroke Study[13] (n1000) diabetes and ischemic heart disease favored IS, whereas age, hypertension, alcohol consumption, atrial fibrillation, and smoking were not predictors of stroke type. In the hospital-based Lausanne Stroke registry[10] (n3901) smoking, hypercholesterolemia, migraine, previous transient ischemic attack, atrial fibrillation, and heart disease favored IS, whereas hypertension was the only significant factor related to HS vs IS. A study based on 39 484 patients[1], well-established risk factors and markers ofatherosclerotic and occlusive arterial disease such as diabetes, atrial fibrillation, previous myocardial infarction, previousstroke, and intermittent arterial claudication were associatedwith IS rather than HS, smoking and high alcohol intakefavored HS, whereas age, sex, and hypertension did notherald stroke type.It appears that the presence of known risk factors foratherosclerotic cardiovascular disease in particular diabetes,atrial fibrillation, ischemic heart disease, and previous strokedisfavor HS as opposed to IS. Whether the presence ofhypertension is in favor of either stroke subtype is unclear.Hypertension is a well-documented risk factor for both IS andHS. Recent studies show, however, that the gradient of therelationship between hypertension and HS is steeper than thatfor IS.[14,15]High alcohol intake is a well-established riskfactor for HS. [16] Light or moderate drinking seems tohave a protective effect on IS,[17] whereas heavy alcoholconsumption is associated with elevated risk of IS. We foundhigh alcohol intake to favor HS, but most other studies did notdemonstrate any difference between HS and IS in relation tothis risk factor. Although we found smoking to be highly infavor of HS as opposed to IS, there is no agreement in theliterature regarding the relation between HS and smoking. Inthe Physicians Health Study,[18] the association of smokingwith HS was approximately the same as that with IS. In asystematic review of 14 case-control and 11 cohort studies[16]the relation was weak or not existent.

III. FINDINGS

A meta-analysis of observational studies showed thatmoderately intense physical activity had a protective effect for total, ischemic, and hemorrhagic stroke.[20]Some studies [21] showed that vigorous physical activity was notstrongly associated with a lower stroke risk. In our study,a single type or combination of occupational and leisuretime physical activity was associated with a decreased riskof stroke.[22] Some research have indicated that smoking is an independent risk factor for bothischemic [23,24], [25]and hemorrhagic stroke.Twometaanalyses of cohort studies suggest that fruit and vegetableconsumption decreases stroke risk.[26, 27] Our results provide evidence that vegetable consumption decreases strokerisk.The association between alcohol consumption andstroke risk has been described as J-shaped in most studies, with the lowest risk among those consuming lightto moderate amount of alcohol.[28] In the Health Professionals Follow-up Study and the Nurses' Health Study,Chiuve et al [29] found a J-shaped association with a lowerrisk of ischemic and hemorrhagic stroke among lightdrinkers. In our study, we merged the groups of peoplewith light to moderate alcohol intake as a healthy lifestyle for alcohol consumption because we found that alcohol drinking had a J-shaped association with ischemic stroke risk.Thus far, only a few studies have assessed the association of combined lifestyle factors and stroke risk.Hypertension, DM, and hyperlipidemia have beenfound to be important vascular risk factors for ischemicstroke.[30] The EPIC Potsdam Study[29] indicated that almost 60% of ischemic stroke risk could be attributed tohypertension, DM, hypercholesterolemia, smoking,and heavy alcohol consumption. It could be hypothesized that the protective effects of a healthy lifestyle onstroke may have a direct biological basis and also partlymediate through its effect on those vascular risk factorsof stroke. For example, an individual HLF, such asphysical activity, has a favorable effect on blood pressure, lipid profile, insulin sensitivity, and body weight.

IV. CONCLUSION

Numerous epidemiological studieshave established an association between chronic alcohol consumptionand hypertension independent of otherrisk factors such as obesity and smoking, and their results have been summarized previously [31, 32, 33].This association hasbeen observed with alcohol consumption in

excess of two drinks per dayand described in white, black, andAsian men and women who reporteddaily intake of three or more drinks. Women may be less susceptible thanmen to alcohol-induced hypertension,however.Chronic alcohol consumption hasbeen verified as the cause of hypertension in two controlled trials. In the firststudy, the blood pressure of 16 hypertensive men, who drank 4 pints of beeron average, dropped significantlywhen alcohol was withdrawn for 4days [34] . In thesecond study, 20 hypertensive subjects(10 who reported consuming less than2 drinks per day and 10 who reportedconsuming 2 to 6 drinks per day)showed significant blood pressurereductions after abstinence [35] . Intervention studies alsoshowed that consumption of three toeight alcoholic beverages per day bysubjects whose blood pressure waswithin or above the normal range (i.e.,normotensive and hypertensive subjects, respectively) increased bloodpressure and that either total abstinence from alcohol or a reduction toless than one drink per day resulted ina short-term drop in blood pressure. Heavy alcohol consumption, on theother hand, has precipitated ischemicstrokes caused by blood clots (i.e., nonatherosclerotic, or emoblic, ischemicstrokes) [36] . The increasein embolic stroke in heavy drinkers hasbeen attributed to atrial fibrillation andcardiomyopathy, because both of theseconditions can predispose a person toeither the formation of blood clots orthe propagation of existing clots thatcould ultimately dislodge and blockblood flow to the brain (Qureshi et al.1995).Regarding the less common hemorrhagic type of stroke, alcohol also hasbeen associated with an increased riskof bleeding within the cerebrum (i.e.,intracerebral hemorrhage) and, lessfrequently, within thespace surrounding the entire brain and spinal cord(i.e., the subarachnoid space). A research suggested thatchronic heavy drinkers have at leasttwice the risk of intracerebral hemorrhage of nondrinkers. In anotherstudy, intracerebral hemorrhage wasassociated with alcohol abuse in 28percent of the cases [37].Alcohol-induced intracerebralhemorrhage was more pronounced inhypertensive than normotensive subjects [38], indicatingthat alcohol-induced hypertensionmay predispose a drinker to this typeof stroke. Hypertension also couldplay a role in alcohol-induced subarachnoid hemorrhage.Both chronic heavy drinkers andbinge drinkers are at an increased riskfor subarachnoid hemorrhage. Onestudy attributed 12 percent of subarachnoidal hemorrhage cases to recent heavy drinking [39]. Other research suggested thatsuch cases could be precipitated by atransient increase in blood pressure.Smoking also is an important riskfactor for subarachnoid hemorrhage[39] and the combinedeffects of heavy drinking and smokingmay be devastating.

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