

No Apparent Effect of Alcohol on Cardiomegaly in Autopsy Cases

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Background

Cardiovascular death is presumably the most important cause of mortality in individuals with chronic alcohol misuse. Alcoholic cardiomyopathy (ACM) is a well-known complication of long-time alcohol misuse, however, the incidence of ACM is not known. The purpose of this study was to investigate differences in heart weight and external and internal heart measurements in alcoholics and a control group matched for age and sex.

Materials and Methods

During a four-year period, 161 male and 52 female autopsy cases of alcoholics, and 148 male and 62 female controls were collected. These were noted for age, sex, BMI, and comorbidities. At autopsy, the heart was weighed, and the heart exterior was measured horizontally, vertically, and sagittally. From the middle of the heart, a one-cm thick horizontal segment was taken. From this segment, the left and right ventricles were measured sagittally and horizontally, and the ventricular lumen area was calculated from these measurements according to the mathematical ellipse formula.

Results

Among the males, but not the females, the alcoholic hearts were wider horizontally but flatter sagittally compared to the controls ($p=0.015$ and $p=0.021$). Among the females, but not the males, the left ventricular lumen area was smaller among the cases compared to the controls ($p=0.001$). No significant differences were found for heart weight, the vertical heart measurement, or the right ventricle.

Discussion

The fact that in the male group, the heart was wider but flatter could be due to atrial fibrillation being more common among high consumers of alcohol. However, our overall results do not support the common forensic pathological conception that high alcohol consumption leads to an enlarged, slouchy heart with widened ventricles.

Conclusions

It is not possible to discern the hearts of chronic alcoholics from non-alcoholics by common macroscopical heart measurements performed at autopsy.