

Glucose metabolism and recidivism of severe violent crimes in alcohol intoxications

June 1 2009

It is commonly known that alcoholism and alcohol intoxications are connected with severe violent crimes such as homicides. For instance, in Finland even 80 per cent of these crimes happen in alcohol intoxications. It has not, however, been clear why only a minority of alcoholics in intoxications become irritated and impulsively aggressive or even commit severe violent crimes.

A Finnish study now finds that low glycogen level - which means non-oxidative glucose metabolism - predicts forthcoming violent offending among antisocial violent offender males in a prospective 8-year follow-up study. "Usually, the new violent crimes happened already during 1-2 years after the release from prisons and with the new starting problems of alcoholism", says Professor Matti Virkkunen, the corresponding author for the study.

Results of the study have been published in the June issue of the journal *Psychiatry Research*.

Glucose metabolism was measured using the insulin clamp / calorimetry method among 49 impulsive, violent, antisocial male offenders during a forensic psychiatric examination. Those 17 offenders who committed at least one new violent crime during the follow-up had mean NOG of 1.4 standard deviations lower than non-recidivistic offenders. Glycogen levels did not differ among nonrecidivists and 40 normal male controls. All offenders and normal male controls were in normal weight and did not differ in the age or in the basal metabolic index (BMI). Only the

basal insulin level was higher among residivistic violent offenders. In logistic regression analysis NOG alone explained 27% of the variation in the recidivistic offending and so clearly better than other variables in the international violence research.

Possibly by means of hypoglycemic states the new violent crimes happen among these persons in alcohol intoxications when they have very low glycogen stores in the liver. The low activity of the enzyme glycogen synthesis is the probable reason for the finding. This might suggest that substances increasing glycogen formation and decreasing the risk of hypoglycemia might be potential treatments for impulsive violent behavior. Of course, also regular eating habits while drinking are important in the prevention of new violent crimes.

Source: University of Helsinki

Citation: Glucose metabolism and recidivism of severe violent crimes in alcohol intoxications (2009, June 1) retrieved 11 May 2024 from <https://medicalxpress.com/news/2009-06-glucose-metabolism-recidivism-severe-violent.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.