

Serum cholesterol, suicidal behavior and impulsivity in cocaine-dependent patients

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Abstract

Relationships between serum cholesterol and suicidal behavior have been reported. As suicidal behavior is common in cocaine dependence, we looked for a relationship with serum cholesterol. To do this, we compared 57 cocaine-dependent patients who had attempted suicide with 111 cocaine-dependent patients who had never attempted suicide for their admission total serum cholesterol levels. We found that there were no significant differences between cocaine-dependent patients who had or had not attempted suicide in their total serum cholesterol levels. Also, there were no significant correlations between total serum cholesterol levels and scores on the Barratt Impulsivity Scale. Thus, admission total serum cholesterol does not appear to be clinically useful in the assessment of suicidal behavior in cocaine-dependent patients. © 2001 Published by Elsevier Science Ireland Ltd.

Keywords: Cocaine; Cholesterol; Suicide; Barratt Impulsivity Scale

1. Introduction

In recent years relationships between serum cholesterol and suicidal behavior have been re-

ported (reviewed in Golomb, 1998). For example, a 12-year follow-up of men screened for the multiple risk factor intervention trial found that those with cholesterol levels less than 160 mg/dl had a greater risk of suicide than those with levels of 160 mg/dl or higher (Neaton et al., 1992). Similarly, a Swedish seven-year follow-up revealed that the relative risk for suicide was raised for men in the lowest cholesterol group compared to

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those in the highest cholesterol group (Lindberg et al., 1992). Most recently, a Finnish primary prevention trial of 29 133 men found that low, baseline serum cholesterol was associated with low mood and death from suicide (Partonen et al., 1999).

Low serum cholesterol has also been found to be associated with suicidal behavior in patient samples. For example, Gallerani et al. (1995) found that serum cholesterol was significantly lower among 331 patients admitted to hospital because of suicidal behavior than among controls. Golier et al. (1995) reported that low cholesterol was associated with medically serious suicide attempts. Fawcett et al. (1997) found significantly lower cholesterol levels in 49 inpatients who committed suicide in the hospital when compared with two general population control groups. Tanskanen et al. (2000) noted an association between cholesterol and violent suicide. Most recently, we found that 120 overdose patients had significantly lower, serum cholesterol levels than 120 normal controls (Sarchiapone et al., 2001).

Patients with a cocaine dependency have a higher risk of suicidal behavior. For example, Marzuk et al. (1992) found that 29% of suicide victims in New York aged 21–30 tested positive for cocaine. Data from 13 673 participants in the epidemiologic catchment area survey in the USA showed that cocaine abusers had a significantly increased risk of attempting suicide (Petronis et al., 1990). Therefore, we decided to examine whether low serum cholesterol was associated with suicidal behavior in cocaine-dependent patients. We hypothesized that cocaine-dependent patients who had attempted suicide would have significantly lower serum cholesterol levels than cocaine-dependent patients who had never attempted suicide.

2. Subjects and methods

We examined a consecutive series of 168 cocaine-dependent patients admitted as inpatients to the substance abuse treatment program at the Department of Veterans Affairs, New Jersey Healthcare System, East Orange campus. Inclu-

sion criteria were that the patient met DSM-IV criteria for cocaine dependence and identified cocaine as his illicit drug of first choice. Exclusion criteria were a lifetime history of schizophrenia, other psychosis, mental retardation, dieting, known hypercholesterolaemia or taking medications known to affect cholesterol levels.

A semi-structured interview was conducted by a psychiatrist (blind to cholesterol level) about cocaine dependence history, socio-demographic variables and lifetime history of any attempts of suicide. A suicide attempt was defined as a self-destructive act with some intent to end one's life that was not self-mutilatory in nature. The information from the patient was supplemented by collateral information from mental health program staff, medical records, the program internist and physician's assistant and, where possible, from previous treatment by mental health professionals. Details of the attempt, including the method used and whether the attempt led to hospital admission, were also recorded. We also categorized each attempt as to whether it was violent (hanging, firearms, cutting and jumping) or non-violent (drug overdose, gas poisoning and drowning). Excessive abuse of cocaine was not considered a suicide attempt.

All patients had a fasting blood sample drawn before 09.00 h on the day after admission for determination of serum total cholesterol level. Patients also completed the Barratt Impulsivity Scale (Barratt, 1993). These data have been previously reported in relation to suicidality and are examined here only in relationship to cholesterol levels (Roy, 2001). Total cholesterol was measured on a Beckman LX 20 instrument. All subjects signed informed consent. In the statistical analysis, Student's *t* and Pearson's method of correlation were used.

3. Results

All 168 cocaine-dependent patients were male. Fifty-seven of the 168 patients had attempted suicide at some time. These 57 patients had made 108 attempts at suicide (average 1.9, range 1–9 attempts). The mean \pm S.D. age of the patients

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