THE ALCOHOL WITHDRAWAL SYNDROME: CHARACTERISATION, PREDICTORS OF SEVERITY, AND RELATIONSHIP TO RELAPSE

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ABSTRACT

Investigations of withdrawal over the last 50 years have established that there is a syndrome that occurs with abstinence from alcohol, and that it is characterised by certain signs and symptoms. However, there is a paucity of information on symptom intensity and duration, predictors of withdrawal severity, and relationship of withdrawal severity to relapse.

Characterisation of the alcohol withdrawal syndrome was a major aspect of this study and involved mapping the intensity and duration of a range of withdrawal symptoms in humans. Physical symptoms of withdrawal were assessed by means of recently developed ambulatory monitors that provided objective twenty four hour recordings of skin temperature, sweating, and activity, all of which are disturbed by alcohol withdrawal. Activity levels during the night were indicative of the quality of sleep, and activity levels during the day reflected symptoms of restlessness and agitation. A significant proportion of this study was dedicated toward validation and calibration of the monitors. Psychiatric and health disturbances were assessed using standardised questionnaires. The BDI was used to assess depression, the STAI was used to assess anxiety, the POMS was used to assess general mood change, and the SF-36 was used to assess health. Assessments of withdrawal symptoms were made at during days 2, 3 & 4 of abstinence, and at two, six and ten weeks of abstinence.

Results from the monitors and questionnaires provided objective, standardised recordings of withdrawal during the first ten weeks of abstinence. Acute withdrawal (days 2, 3 & 4) was characterised by disruptions to diurnal temperature rhythms, periods of hyperthermia, severe sweating during the night persisting into the morning, sleep restlessness, disruption to diurnal activity rhythms, severe anxiety and depression, general mood disturbance, and poor physical and mental health. Protracted withdrawal after two weeks of abstinence was characterised by the same symptoms as during the acute phase. Protracted symptoms of hyperthermia, sleep restlessness, disrupted diurnal activity rhythms, anxiety, and physical and mental health disturbances were evident at six weeks. Symptoms of anxiety, sleep restlessness, disruption to diurnal activity rhythms and compromised mental health were present at ten weeks of abstinence.

The second major area of investigation was concerned with identifying predictors of alcohol withdrawal severity, including the global withdrawal syndrome as a whole, and also predictors of the severity of the global physical component of the withdrawal syndrome. Drinking history, kindling, and complications concomitant to withdrawal were investigated as predictors. Objective biological markers of hazardous alcohol intake were also investigated as potential predictors of withdrawal severity (gamma glutamyl transferase GGT, mean corpuscle volume MCV, carbohydrate deficient transferrin CDT). Two of the

components of drinking history (length of most recent drinking bout, and daily intake) appeared to predict the severity of the withdrawal syndrome as a whole. The concomitant complications of co-morbid illness and prescribed medication usage affected the severity of the global physical component of the withdrawal syndrome. The biological marker carbohydrate deficient transferrin was predictive of the global physical component of withdrawal severity.

The final major area of investigation concerned determining predictors of relapse using survival analysis. The main focus was on acute and protracted withdrawal severity as a predictor, and its relationship to other predictors of relapse. The other potential predictors of relapse that were incorporated into the survival analysis included several social factors (employment, residency, social support), and antecedents of withdrawal severity (drinking history, kindling, concomitant complications). The withdrawal syndrome as a whole, both acute and protracted, was not predictive of relapse, nor were any of the individual symptoms of withdrawal predictive of relapse. Of the antecedents of withdrawal severity, the concomitant complication of polydrug use was predictive of relapse, and increased the risk of relapse by approximately six times. The lack of availability of social support was also predictive of relapse, and increased the risk of relapse by approximately five times.