

S85. Scandanavian psychiatry: an epidemiologist's dream

Chairmen: P Jones, T Helgason

DOES SCHIZOPHRENIA RESULT FROM PREGNANCY, DELIVERY AND PERINATAL COMPLICATIONS? A 28 YEAR STUDY IN THE 1966 NORTH FINLAND BIRTH COHORT

Peter Jones¹, Paula Rantakallio, Anna-Lisa Hartikainen, Matti Isohanni, P. Sipila. ¹ Dept. Psychiatry, University of Nottingham, NG3 6AA, UK; University of Oulu, Finland

Abnormalities of pregnancy, delivery and the neonatal period have been linked with adult onset schizophrenia. We tested this hypothesis in 11017 members of the 1966 North Finland birth cohort (n = 12058) who were alive and living in Finland at age 16. Standardized assessments beginning in mid-pregnancy were linked to national hospital registers in order to identify cases of schizophrenia.

There were 76 cases of DSM-III-R schizophrenia by age 28 years. Mothers' demographics were similar in cases and controls but conditions associated with chronic fetal hypoxia were more common in schizophrenia (OR 2.2; 1.3, 3.7), as were maternal fever above 38°C during pregnancy (OR 3.7; 0.7, 18.1), and placental ablations (OR 10.7; 1.8, 65). Delivery abnormalities were not more common in schizophrenia. Low birth weight (< 2.500 g), short gestation (< 37 weeks) and their combination (OR 3.4; 1.2, 9.5) were all more common in schizophrenia, but being small for gestational age (< 10th centile) was not; babies destined for schizophrenia tended to be born early but at an appropriate weight. 6 of 132 babies (4.6%) who survived perinatal brain damage developed schizophrenia (OR 7.5; 3.2, 17.6); 6.8% (5.4%, 7.4%) of the illness may be attributable to such damage.

The time window during which aberrations of brain development might contribute to the development of schizophrenia appears to be wider than previously proposed although, as in cerebral palsy, obstetric mishap does not appear important. We cannot rule out an interaction between pregnancy and perinatal events and a genetic diathesis.

A COMPARATIVE NORWEGIAN PSYCHIATRIC EPIDEMIOLOGICAL STUDY

Einar Kringle, Svenn Torgersen. University of Oslo, Department of Psychiatry, Vinderen, Oslo 3

This study aims at investigating the prevalence and incidence of mental disorder in two contrasting areas of Norway — Oslo, the capital, and a western rural district. Mental disorder as well as normal functioning will be related to individual development and social and cultural factors in order to throw light on causative agentia.

The two regions are highly different with regard to medical and social indicators, Oslo having relatively high rates of coronary heart disease and social problems compared with the western part of the country.

A random sample of 2000 subjects in the age group 18–70 years from each of the regions will be studied by CIDI and instruments measuring personality variables and social network. Thus, this is the first largescale study of the epidemiology of personality disorder. Some preliminary findings from the investigation will be presented.

PERSONALITY AND LOW IQ AS POSSIBLE RISK FACTORS FOR SCHIZOPHRENIA

Glyn Lewis¹, Anthony David², Aslög Malmberg³, Peter Allebeck⁴. ¹ University of Wales College of Medicine, Cardiff; ² King's College Hospital & Institute of Psychiatry, London; ³ Oxford University; ⁴ University of Göteborg

A cohort study of 50,000 male military conscripts based in Sweden will be described. The cohort was defined as those conscripts interviewed in 1969/70. 195 of the cohort were admitted to a psychiatric hospital in Sweden, with a diagnosis of schizophrenia, over the next 14 years.

Subjects with few friends at conscription, who preferred to socialise in small groups, who did not have a steady girlfriend and felt more sensitive than other people were thirty times more likely to develop schizophrenia than those without any of those characteristics. Subjects with low IQ were also at increased risk. These factors were all independently associated with schizophrenia.

The results will be discussed in terms of their relevance to aetiological hypotheses about schizophrenia and the appropriateness of multifactorial aetiological models in epidemiology. It is hypothesised that an underlying psychological deficit related to forming relationships, and developing in childhood and adolescence could be an important risk factor for schizophrenia.

THE DANISH DATABASE FOR PSYCHIATRIC EPIDEMIOLOGICAL RESEARCH

Preben Bo Mortensen. Institute for Basic Psychiatric Research, Department of Psychiatric Demography, Psychiatric Hospital in Aarhus, Denmark

In Denmark a database for psychiatric epidemiological research has recently been established by linking the nationwide Danish Psychiatric Case Register to registers of general hospital admissions, causes of death, a medical birth register, a register of congenital malformations, a register of provoked abortions, and a register of cytogenetic examinations. The purpose of this database is to facilitate the use of linked case register data by both Danish researchers and researchers from other countries. This database includes approximately 320,000 individuals who have been admitted to Danish psychiatric hospitals or departments during the period 1969–1994. The database is based on cumulative nationwide registers and will be updated regularly, and it will also be attempted to include other registers. The database is currently being used for studies of perinatal risk factors and psychiatric disorders, as well as other studies. Examples of the uses of the database will be given as well as guidelines as to how to access the data.

S86. Personality disorders: forensic aspects

Chairmen: H Sass, J Coid

PERSONALITY DISORDERS AMONG CRIMINAL OFFENDERS FROM EAST LONDON: AN ANALYSIS OF CONSECUTIVE PSYCHIATRIC ASSESSMENTS 1987–95

J.W. Coid. Academic Section of Forensic Psychiatry, St. Bartholomew's, London, UK; London Medical College, London, UK

Forensic psychiatry services in the U.K. are located primarily in the

four Special Hospitals which provide a national service at a maximum level of security and in the network of Regional Secure Units which provide a medium level of security and additional specialist services to their catchment areas. The paper examines the characteristics of patients with personality disorder who were assessed by the sub-regional forensic psychiatry service in East London. This geographical area is characterised by especially high levels of social deprivation and high crime rates.

The service has developed to prioritise severely mentally ill and patients requiring inpatient services. Over 1,000 patients were assessed during the study period, of whom half suffered from schizophrenia. Personality disorder was considered the primary psychopathology in an additional 25%. The most prevalent diagnoses were antisocial and borderline personality disorder which demonstrated comorbidity with lifetime depressive disorder and substance abuse. Subjects exhibited a wider range of offending behaviour than the severely mentally ill, whose offences appeared to be concentrated in the most serious categories of violence. Personality disordered patients were more likely to be younger, caucasian, and born in the U.K. They were more likely to be referred by Probation Officers and lawyers than prison medical staff and local general psychiatrists who referred the mentally ill. Only a small proportion were subsequently accepted for admission to inpatient facilities.

These findings are thought to be broadly representative of other local forensic psychiatry services in the U.K. where previous research has demonstrated that the assessment and treatment of personality disorder is not a priority. The findings suggest that personality disordered individuals who are admitted to medium secure units are likely to be highly selected and unrepresentative samples. These findings have implications for future research into personality disorder in maximum and medium secure services in the U.K.

SEROTONERGIC FUNCTION IN PERSONALITY DISORDERED OFFENDERS

Mairiad Dolan. *Wellcome Training Fellow, University of Manchester/Ashworth Hospital, Maghull, Liverpool, L31 1HW, UK*

Evidence of reduced central serotonin (5-HT) in the mediation of aggression and impulse control comes from both behavioural and correlative studies. CSF 5-hydroxyindoleacetic acid 5-HIAA has been shown to correlate inversely with irritability and hostility, aggression and criminality in normal and patient populations. Studies examining neuroendocrine responses to pharmacological challenge in aggression are few in number, disparate in the nature of the challenging agent, and inconsistent in their findings. Overall, however, the data suggest an important role for the serotonergic modulation of suicidality and aggression, consistent with previous studies utilising CSF and peripheral blood indices of 5-HT function.

This study provides a preliminary report on prolactin (PRL) responses to a 30 mg dose challenge with d-fenfluramine in 58 male drug free personality disordered (PD) offenders detained in a maximum security psychiatric facility and 16 non-patient controls recruited from staff in the same institution. Controls were screened for a personal or family history of mental disorder on the basis of a semi-structured interview. Major medical illness was ruled out in patients and controls by physical examination and laboratory tests. Participants completed a battery of psychometric assessments of impulsivity and aggression. Following insertion of an intravenous cannula subjects followed a standard neuroendocrine protocol in which blood samples were obtained hourly until 300 minutes post challenge. A subgroup also received a placebo challenge. PRL responses were assessed using the area under the curve corrected for baseline (+60 mins).

{Fenfluramine stimulates release and blocks reuptake of 5-HT and results in a temporary increase in 5-HT in the synaptic cleft. It acts as

a potent stimulator of PRL through the limbic-hypothalamic-pituitary axis}.

All patients met DSM-III-R criteria for PD. Fifty were classed as psychopathic (high impulsivity/aggression scores) and 6 as non-psychopathic or inhibited (low impulsivity/aggression scores) on the Special Hospital Assessment of Personality and Socialisation (SHAPS).

Analysis of variance for repeated measures revealed a significant drug by time effect ($F = 9.34, p < 0.001$). Significant differences between SHAPS categories were observed ($F(2,71) = 5.5, p < 0.01$). Post hoc testing revealed lower mean responses in psychopathic patients (91.2 mIU.h/L) compared with the inhibited group (294.9 mIU.h/L, $p < 0.01$). Controls had intermediate responses (164.2 mIU.h/L) PRL response also correlated negatively with the Barratt total impulsivity score ($r = -0.27, p < 0.05$) and the SHAPS impulsivity ($r = -0.26, p < 0.05$) and aggression ($r = -0.28, p < 0.05$) scales.

The findings indicate reduced 5-HT functioning in impulsive aggressive PD patients but also suggest increased 5-HT functioning in inhibited or overcontrolled personalities.

IMPULSIVITY AND AGGRESSION IN PATIENTS WITH SELF-DESTRUCTIVE BEHAVIOR AND THEIR RELATION TO SEROTONERGIC DYSFUNCTION

S. Herpertz, H. Sass. *Psychiatric Clinic of the Technical University of Aachen, Pauwelsstr. 30, D-52057 Aachen, Germany*

Problems of impulse control which are currently discussed in a variety of psychiatric disorders and dysfunctional behaviours have been associated with reduced central serotonergic activity. In this study, psychometric and biological measures of impulsivity and aggression were assessed within a population of female patients attending a treatment program for personality disorders. Three clinical groups of subjects were studied: self-mutilators, patients with repetitive impulsive poisoning and as a clinical control group personality disordered patients without any disorder of impulse control. A non-clinical sample of normal probands was recruited, as well. According to Lacey and Evan's concept of "multi-impulsive personality disorder" participants were rated for different modes of impulsive behaviors and were asked to complete a battery of self-assessment inventories including the Barratt-Impulsiveness-Scale, the State-Trait-Anger Expression Inventory, and the "Fünf-Aggressivitäts-Faktoren" (a German scale similar to the Buss-Durkey-Hostility-Inventory). The Hamilton Depression Rating Scale (HDRS) scores were recorded for all subjects. As a biological measure, the prolactin (PRL) response to D-fenfluramine, a quite specific 5-HT releaser and reuptake inhibitor, served as the index of central 5-HT activity.

Subjects with either mode of impulsive behavior scored high on the impulsivity, irritability, and anger temperament scale, however, low on anger control in comparison to patients without impulsive behaviors and to normal probands. They were not characterized by a tendency toward outwardly directed aggressive behavior. Self-mutilators did not differ from those subjects with self-poisoning except for severity of impulsive behaviors.

The D-Fenfluramine challenge test was performed in drug free subjects who were controlled for age, weight, season of study, and fluctuations throughout the menstrual cycle. The depressive state was assessed as a covariate which may have influence on PRL response. The analysis of covariance revealed lower mean responses in self-mutilators compared with the normal control group when the HDRS score was introduced as a covariate. Self-mutilators did not differ significantly from personality-disordered patients without impulsive behaviors. PRL response correlated negatively with the HDRS, the anger suppression, and the Barratt non-planning impulsivity scores but did not correlate with the severity score of impulsive behaviors.