Objectives: To audit the management of epilepsy in both institutionalised and community patients with a learning disability.

Design and setting: Psychiatrists from 7 districts agreed on 10 standards of care (*vide infra*). During 1994, each district collected data on the management of 25 patients with epilepsy using an agreed proforma.

Patients: Both institutionalised and community patients with epilepsy were included. results: Data on 175 patients were returned to the Four Counties Clinical Audit Team for analysis. Fifty-one percent were males and 49% were females; mean age was 33 years. 56% were outpatients and 46% were institutionalised patients.

Conclusions: This is one of the first inter-district audits of epilepsy in patients with a learning disability to include both inpatients and community patients and to set standards beforehand. There was some variation in different districts. A majority of patients were seen at least annually. However, only 505 of patients were on monotherapy. Although 89% were free from side-effects (2 districts had all patients from side-effects), this could mean that patients were not fully examined for adverse drug reactions.

Acknowledgements: We thank all the clinicians in 7 districts who co-operated in this audit.

PSYCHOPATHOLOGICAL STATES OF PARAPHILIC BEHAVIOUR

A.A. Tkachenko. *Serbsky National Research Centre for Social and Forensic Psychiatry, 23, Kropotkinsky per., 119839, Moscow, Russian Federation*

Objective. Discovery of psychopathological and clinicopathogenetic consistent patterns of paraphilia. *Methods.* Subjects comprise 370 males referred to the forensic psychiatric examination after they were prosecuted for sexual crimes. 193 of them were persons with different variants of paraphilia (ICD-10). The comprehensive statistic analysis of EEG and activity of serotonin and catecholamine was performed. *Results.* Identified were three groups of psychopathological disorders: (1) psychopathological formations reflecting disontogenetic disturbances of the stageness of self-consciousness forming; (2) foregoing accomplishments of altered emotionality status reflecting a shift to the direction of protopathic sensitivity with a wide spectrum of affective disorders; (3) states of perverted consciousness in different variants from the narrowing and dissociative reactions to the clouding — emerging directly at the moment of accomplishment. Presented are findings about the relation of the given states with the alteration of biological parameters. *Conclusion.* The system of diagnostic and expert criteria of paraphilias, based on their interaction with other psychopathological syndromocomplexes, is given.

LOWER FREQUENCY OF APOE E ALLELE IN AN OLDER DOWN'S SYNDROME POPULATION

J. Tyrrell, M. Cosgrave, B. Lawlor, M. Gill. *Department of Psychiatry, Trinity Centre for Health Sciences, St. James's Hospital, Dublin 8, Ireland*

Several studies have reported an association of the Apolipoprotein E allele e4 with Alzheimer's disease. Individuals with Down's syndrome (DS) are known to have an increased risk of Alzheimer's disease. We are engaged in a prospective study on the effect of APOE genotype on the development and progression of dementia in Down's syndrome.

We determined the APOE genotype of 77 DS individuals whose average age was 48. 12 of these individuals were demented using DSM111R criteria. APOE genotype was determined as described by Crook [1]. The table summarises our results for this group and compares the allele frequencies with the frequencies in a sample of 182 population controls. The frequency of the E4 allele in the DS individuals (0.084) was less than half that in the controls (0.192) (Chi square 9.36, 1 df, $p = 0.0022$).

We found no E4 homozygotes in the DS group whereas we would have expected between two and three. Schacter et al [2] have found a lower frequency of the APOE e4 allele in a study in French centenarians, which they attributed to its role as a risk factor in heart disease and Alzheimer's disease. We propose that the decreased frequency of Apoe e4 allele in DS may be due to the premature death of those DS individuals with this allele from either heart disease or dementia. This effect may be seen much earlier in DS perhaps due to the overexpression of the APP gene on Chromosome 21.

Allele number and frequency	E2	E3	E4
DS n = 77	12 (7.8)	129 (83.8)	13 (8.4)
Controls n = 182	20 (5.5)	274 (75.3)	70 (19.2)

[1] 1 Crook R, Hardy J, Duff K. Journal of Neuroscience methods 1994; 53: 125–127

[2] 2 Schacter F, Delanef-Faire L, Guenot F et al. Nature Genetics 1994; 6: 29–32

NR13. Schizophrenia: aetiology and antipsychotic drugs

Chairmen: G Bussato, D Castle

AN INVESTIGATION INTO EXTRAPYRAMIDAL SIDE EFFECTS INDUCED BY NEUROLEPTICS AND THEIR RELATIONSHIP TO CREATINE PHOSPHOKINASE

Maria Atkins [1], Marcello Camprubi [2], Jonathan Evans [3], Sidney Graham Ball [4], Massimo Riccio [2]. [1] *Woodlands Centre, Hillingdon Hospital, Field Heath Rd, Uxbridge Middx UB8 3NN;* [2] *Mental Health Unit, Chelsea and Westminster Hospital;* [3] *Department of Mental Health, University of Bristol, 41 St. Michaels Hill, Bristol BS2 8D2;* [4] *Department of Chemical Pathology, Chelsea and Westminster Hospital*

Aim: To assess the relationship between the severity of muscular symptoms induced by neuroleptics and serum creatine phosphokinase concentration (CPK). The recent speculation about a spectrum concept of neuroleptic malignant syndrome (NMS) and debate about the importance of CPK in the diagnosis of NMS inspired this prospective study.

Method: 35 subjects were recruited and rated on 3 separate occasions for the severity of their extrapyramidal side effects (using standardised rating scales) with concurrent CPK levels being estimated.

Results: No statistically significant association was found between CPK levels and severity of extrapyramidal side effects.

Conclusion: Although this study has not shown a positive relationship between CPK levels and extrapyramidal side effects published case reports suggesting an association between these factors cannot be ignored and a larger study may be indicated. Published evidence is cited for the asymptomatic rise of CPK and other factors which cause a rise in this enzyme. The case is made for more caution to be exercised in the use of CPK as a clinical indicator in the rechallenging of patients who have suffered from an episode of neuroleptic malignant syndrome (NMS).

https://doi.org/10.1016/0924-9338(96)88866-3 Published online by Cambridge University Press