

# ANTIPSYCHOTIC DOSE STUDY IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS.

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The purpose of the study is to find the minimal effective dose range of antipsychotics in schizophrenic population at the Milwaukee County Institution. 213 definite schizophrenic cases per DSM III criteria were chosen for the study (134 acute adult inpatients and 79 adult outpatients). All antipsychotic medication dosages were converted to the equivalent doses of thiothixene. The smallest effective dose was chosen as the minimal dose of the medication for each patient. The overall results show 14 % of the cases were drug resistant and 86 % were drug responsive. Among the acute adult services a higher percentage of paranoid schizophrenic patients needed high doses of antipsychotics (>40mg thiothixene) to stabilize their acute symptoms. But a higher percentage of nonparanoid patients needed low doses of medications (<40mg). Among the outpatients, the lower doses of medications were needed to maintain their improvement (<40mg). Most of them needed only <20mg thiothixene equivalent doses of antipsychotics. The psychiatrists can use each patient's past medication history to estimate the patient's minimal dose.

# NICOTINE DEPENDENCE IS DIFFERENT FROM OTHER DRUG DEPENDENCIES

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This analysis examines the relative prevalence of DSM/ICD generic criteria for substance dependence in nicotine vs other substance use. As part of the APA/NIMH DSM-IV field trials, two population-based samples received the WHO CIDI-SAM structured interview. The following prevalence rates are for each DSM-III-R/ICD-9 criteria among current users of tobacco (n=261) vs current users of alcohol (n=398), marijuana (n=180), cocaine (n=56) and opioids (n=37). Tobacco users were more likely to report tolerance (76% for nicotine vs 19-29% for other substances), withdrawal (57% vs 12-16%), greater consumption or duration of use than intended (64% vs 20-33%), strong desire or inability to stop/cut down/control (38% vs 10-23%) and compulsive use (54% vs 14-23%). Tobacco users were somewhat less likely to report spending much time obtaining, using or recovering from the substance (21% vs 21-30%). Tobacco users reported a similar prevalence of giving up activities to use substance (7% vs 4-14%), harm from substance use (64% vs 46-73%) and use despite known problems from the substance (51% vs 21-73%). Our results suggest that, despite recent interest in commonalities across dependencies, there are large and clinically significant differences in how dependence is manifested in nicotine vs other drug use.

# QUANTITATIVE EVALUATION OF THE CYTOARCHITECTURE OF AREAS 10 AND 44 IN SCHIZOPHRENIA

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In 15 individuals without neurological findings (9 men, 6 women) and 12 schizophrenia (SCH) patients (5 men, 7 women) Brodmann's areas 10 and 44 have been studied in serial Nissl stained sections. Mean age of the control group is  $57 \pm 3$  years, and  $61 \pm 4$  years in SCH group. All observations are similar with respect to cause of death and postmortem interval (from 3 to 10 hours). The method of automatic morphometry of cortical structure has been developed for texture analysis system TAS (Leitz, Germany). The algorithms of mathematical morphology have been implemented for image processing. Automation provided the possibility to measure the neuronal parameters in total specimen area from 60 to 120 mm<sup>2</sup> in each case. Tissue samples have been collected and measured in former All Union Center of Mental Health, Moscow, Russia, in 1980-1989. The profiles characterizing distribution patterns of cellular area fraction ( $V_A$ ), numeric density ( $N_A$ ), and mean cells profile area ( $S_A$ ) from the pia to the white matter have been registered for every individual. Averaged profiles of stereological parameters characterizing SCH and control groups have been analyzed. Statistically significant 20% increase of  $N_A$  and 15% decrease of  $S_A$  have been found. The regions of the cortical traverse primary involved are the zone of layers III<sup>C</sup>-V in area 10 and II-III<sup>A</sup> in area 44. No significant correlation of age or gender with any parameter of structure has been found. The differences observed are consistent with data recently reported in cortical areas 9 and 46 (L.D.Selemon, G.Rajkowska, P.S.Goldman-Rakic, 1994) for similar group of patients. They could indicate widespread decrease of the volume of neuropile in frontal lobe of SCH patients and probable differential involvement of some layers in different areas.

# Vasodilatory Actions of Calcitonin Gene-Related Peptide and Nitric Oxide in Parenchymal Microvessels of the Rat Hippocampus.

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Calcitonin gene-related peptide (CGRP) and nitric oxide (NO) are known to exert vasodilatory actions in a variety of vascular beds. Recent evidence suggests that CGRP may mediate some aspects of the vasodilation elicited by NO. The present studies examined the responses of parenchymal microvessels in the rat hippocampus to CGRP and an inhibitor of nitric oxide synthase. Hippocampal slices were prepared from adult male Sprague-Dawley rats. Microvessels in the neuropil of submerged slices were examined using computer-assisted videomicroscopy. Drugs were administered by addition to the medium superfusing the slices. The resting diameter of vessels analyzed in this study ranged from 12 to 25 micrometers. Treatment with the nitric oxide synthase inhibitor, N-nitro-L-arginine (NNLA; 100  $\mu$ M), constricted vessels to  $51.1 \pm 7.7\%$  of resting diameter (n=9). Application of CGRP (10 nM) in the presence of NNLA resulted in the dilation of the precontracted vessels to  $97.0 \pm 9.6\%$  of their resting diameter (n=4). These findings suggests that CGRP-induced dilation is not mediated by increased production of NO. Ongoing experiments are investigating the possible role of CGRP in mediating NO-induced vasodilation.