Methods: We performed a retrospective assessment of the prevalence of hyponatremia in 53 people receiving carbamazepine (subjects) and 64 people not receiving carbamazepine (controls) at a residential centre for the learning disabled. We examined relationships between serum sodium level, sex, age, carbamazepine dose and serum carbamazepine levels. We assessed clinical features of hyponatremia using a specially designed checklist.

Results: The prevalence of hyponatremia in subjects was 41.5% and in controls was 9.4%. Mean serum sodium level in subjects was significantly lower than that in controls ($p<0.0001$). Hyponatremia correlated significantly with high carbamazepine dose and high serum carbamazepine level. The checklist of clinical features was not useful in detecting hyponatremia clinically.

Conclusions: Hyponatremia is a common occurrence in this population. In light of the uncertain significance of mild, chronic hyponatremia, the value of routine monitoring of serum electrolytes has yet to be established.

P27.04

Risperidone for behavioral disturbances in adults

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The efficacy and safety of risperidone for treating behavioral disturbances in adults with conduct spectrum disorders and mild, moderate, or borderline mental retardation were assessed in a randomized, double-blind, placebo-controlled trial. Subjects received 1 to 4 mg/day of risperidone (n=39) or placebo (n=38) for 4 weeks. The overall mean dose of risperidone was 1.45 mg/day The primary efficacy measure was the change at endpoint in the total Aberrant Behavior Checklist (ABC) score. Significantly greater reductions in total ABC score were seen in the risperidone group than in the placebo group from week 2 through endpoint ($p<0.05$). Similar results were observed for the irritability subscale ($p<0.05$). Risperidone was associated with a significantly greater decrease than placebo in the hyperactivity and stereotypic behavior subscales at week 4 ($p<0.05$). Adverse events were reported in 59% and 66% of patients in the risperidone and placebo groups, respectively. No patient discontinued the trial because of adverse events. The results suggest that risperidone is efficacious and well tolerated for behavioral disturbances in adults with conduct spectrum disorders and subaverage IQs.

P28. Neurobiology

P28.01

Effect of naltrexone on dopamine system functions in morphine dependent rats

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Opiate receptor antagonists (ORA), including Naltrexone, are widely used in the treatment of opiate addiction. There is an opinion that the therapeutic effect of ORA is only attributed to "chemical blockade". To answer the question whether ORA have an effect on biological mechanisms of opiate dependence we studied two groups of Wistar rats. One group was given morphine for 12 days. Three days after morphine withdrawal this group received Naltrexone during 12 days. Group 2 was only given morphine. The HPLC method was used to determine free and conjugated DA in the blood serum and midbrain. The results showed an increased blood free DA level in group 2 and normal in group 1. The conjugated DA level in the blood of animals in group 2 tended to decrease while that in group 1 was normalized and DOPAC content increased thus indicating an activation of DA metabolism. In the midbrain, the morphine-increased DA level was much more increased by Naltrexone. So, Naltrexone was shown to influence DA system functions in the brain and blood of the morphine-dependent rats. This influence might be attributed to both the blockade of opiate receptors and the direct effect of Naltrexone on DA system, including DA receptors.

P28.02

Autoradiographic localisation of 5-HT receptors in the human brain

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The serotonin (5-HT) system is widely distributed throughout the brain and is a target for the pharmacological treatment of several psychiatric disorders. A detailed characterization of 5-HT receptor distribution in the human brain could be important for the development of specific psychoactive drugs. This presentation compares the distribution of a number of 5-HT receptors and the 5-HT transporter (SERT) in the human postmortem brain. Anatomically adjacent whole hemisphere sections were incubated with specific radioligands for the 5-HT1A, 5-HT1B, 5-HT2A, 5-HT4 receptors and SERT. A detailed comparison of the autoradiograms revealed different laminar and regional distribution patterns in the neocortex, where 5-HT1A and 5-HT4 receptor binding showed highest densities in superficial layers and 5-HT2A receptor binding was most prominent in medial layers. The layering was less distinct for 5-HT1B and SERT, although regional differences was revealed with dense binding in the medial occipital cortex (5-HT1B) and cingulate gyrus (SERT). Subregional differences between the different receptors were also observed in the hippocampal formation and in the basal ganglia.

P28.03

Evidence for neuroplastic activity in acute schizophrenic psychosis

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Objective: S100B, a calcium binding protein produced by astroglial cells, evolves paracrine and autocrine effects on neurons and glia cells playing a role in neuronal plasticity and long-term potentiation. It has been shown to be increased in acute brain damage and neurodegeneration. A recent study showed increased S100B levels in medicated acutely psychotic patients with schizophrenia.

Methods: The study presented here included 26 drug-free patients with acute schizophrenia and 26 matched healthy controls. S100B blood concentrations were determined using a quantitative immunoassay upon admission and after 6 weeks of neuroleptic treatment. The PANSS was used to investigate psychopathology.

Results: Unmedicated schizophrenic patients initially showed significantly increased S100B levels compared to matched healthy controls. After 6 weeks of treatment, 11 patients showed normal S100B levels while in 15 patients the levels remained increased. These patients showed significantly higher PANSS negative scores upon admission and after 6 weeks of treatment.

https://doi.org/10.1016/S0924-9338(02)80674-5 Published online by Cambridge University Press