that zolpidem has a not-known serotonin-mediated mechanism (Elko et al. 1998).
If this mechanism also is responsible for the response seen in our patient is not clear. Interestingly neither lorazepam nor zopiclone showed effect on the depressive symptoms. Perhaps the specific selective binding profile of zolpidem can be accounted for this effect (Sanger et al. 1999). Counter expectory we found a decrease of cerebral perfusion over the left parietal and temporal region in the SPECT after administration of 5 mg zolpidem which needs further explanation.
Thus this is the first report of an antidepressant effect of the hypnotic drug zolpidem.


P03.255 RATIONALE FOR ANTIDEPRESSANT INFUSIONS
C.R. Hojaij. The Melbourne Clinic, Psychiatry, Melbourne 3121, Australia

Being naturally a long and continuous illness, depression may become chronic provoking a number of serious inconveniences like maintenance of suicide risk, long hospitalisation, impairment in life's quality, family disruptions, disbelief in treatments and high social and economic costs. Epidemiological surveys on resistant depression give a figure that go from 29% to 50%. Misdiagnosis and consequent incorrect treatment, and low doses of antidepressants are among the main causes for treatment-resistant.

Four major goals could be pointed out in the pharmacological treatment of resistant depression: a search for an alternative for the current techniques mainly based on oral administration of SSRIs and tricyclics and new compounds like venlafaxine and mirtazapine, and ECT, all demanding a long time for recovery; a need of some prediction about the effectiveness of the used drug in the first few days of treatment; a rapid clinical response and a long term maintenance without relapse.

Many proposals have been utilised to face resistant depression, like combination of antidepressants, antidepressants and mood stabilisers, SSRIs and pindolol, augmentation with thyroid hormones, ECT, psychosurgery and transcranial magnetic stimulation.

Established since the 1970 the intravenous infusions have been proved efficacious in many forms of resistant and severe depressions as well as in obsessive-compulsive disorders. This not so widely used technique can be regularly used in out-patient settings.

Among the advantages of the use of intravenous infusions of antidepressants some may be highlighted: avoidance of the gastrointestinal pathway; avoidance of the first pass metabolism in the liver; faster absorption by the central nervous system; dose inferior to the oral; assurance of drug administration; maintenance of the first pass metabolism; lower side effects and early onset of improvement.

Several studies with clomipramine and maprotiline encourage the use of the SSRIs by intravenous infusion. Citalopram well established clinical efficacy and low profile side effects recommend its intravenous use in high dose as a practice to reach a rapid recovery in resistant and severe depressions.

P03.256 THERAPEUTIC EFFECT OF MOCLOBEMIDE IN PSYCHOCGIC ERECTILE DYSFUNCTION
K. Mann, J. Pankok, J. Leitner1, O. Benkert. 1Department of Psychiatry and Department of Urology, University of Mainz, Germany

Based on a previous study by Philipp et al. (Int Clin Psychopharmacol 1993, 7: 149–153), which had revealed a positive influence of the selective reversible MAO-A inhibitor moclobemide on sexual function in patients suffering from depression, we tested the hypothesis that moclobemide has a specific therapeutic effect on erectile dysfunction independent of its antidepressive properties.

A double-blind placebo controlled study was thus carried out. 12 male outpatients, 25 to 58 years old, suffering from "psychogenic" erectile dysfunction according to the criteria of DSM-IV were recruited for the study and randomly assigned to placebo and a verum group. The patients had no lifetime diagnosis of any other psychiatric disorder. Based on comprehensive clinical, neurological and urological examinations as well as routine laboratory parameters including hormones, there was no evidence of organic factors relevant for sexual function.

The patients were not suffering from sleep disturbances and were not taking any drugs. The treatment period was eight weeks. In the verum group, patients received 450 mg moclobemide during the first week, and 600 mg during the following weeks. Erectile function was assessed by the Clinical Global Impression (CGI) scale under baseline condition, after week 2, after week 4 and at the end of week 8 of treatment. In addition, as a secondary outcome measure on the neurophysiological level, nocturnal erections were measured by applying the Rigiscan device under polysomnographic control in the sleep laboratory at baseline and at the end of the treatment period.

While under placebo a slight decrease of the mean score of the severity of erectile dysfunction appeared only at the end of week 8, in the verum group a clear decrease of the severity could be observed after 4 weeks and even stronger at the end of week 8. A two-way ANOVA procedure revealed a tendency towards an interaction between treatment group and time according to a larger improvement under moclobemide medication compared to placebo. The therapeutic efficacy found on the subjective level had no clear correlate on the neurophysiological level. Regarding duration, peak tumescence and peak rigidity of the best nocturnal erections, no alterations were obvious under treatment in both groups. Neither were clinically relevant alterations found regarding sleep EEG parameters. The medication was well tolerated without clinically relevant adverse events.

The results support the hypothesis that moclobemide has a specific effect on erectile dysfunction. Thus, patients suffering from "psychogenic" erectile dysfunction who are not depressed might benefit from moclobemide. Moreover, moclobemide might be a drug of first choice for depressive men complaining of sexual dysfunctions.

P03.257 MIRTAZAPINE AND ONSET OF ACTION OF ANTIDEPRESSANT ACTIVITY
S. Montgomery, A.J. Schutte, P. Reimt. Imperial College School of Medicine at St Mary's, Department of Pharmacology, London, UK

Three double-blind controlled studies of mirtazapine (MIR) vs fluoxetine (FLU), paroxetine (PAR) or citalopram (CIT) in depressed patients were re-analyzed. Data from the FLU and PAR studies (using HAMD-17) were combined (387 patients), whilst that of the CIT study (using MADRS) was analyzed separately (269 patients). Decrease in HAMD-17 was significantly greater on MIR than FLU/PAR at 7, 14, 21, 28 and 42 days and there was a significantly greater proportion of responders (≥50% reduction in HAMD-17) on MIR than FLU/PAR on days 7, 14, 21 and 28. MADRS decreased significantly more on MIR than on CIT at day 14, differences at days 21 and 28 approached significance (p = 0.07). The responder rate (≥50% reduction in MADRS) rate was higher on MIR than CIT at 14, 21 and 28 days (ns). The proportion of remissions (HAMD ≤ 7 or MADRS ≤ 12) was greater on MIR than SSRI at all times, with the differences achieving significance at days 21 and 28 for FLU/PAR and day 21 for CIT. At no time point for any parameter there was an advantage for SSRI over MIR. These results provide strong evidence that MIR has a faster onset of action than the SSRIs. Supported by Organon.

P03.258 EFFECTS OF MECAMYLAMINE ON HUMAN ATTENTION AND VISUAL RECOGNITION MEMORY AND REVERSAL BY THE ANTICholinesterase DONEPEZIL
J.C. Thompson, C. Stough, D. Ames, C. Ritchie, R.B. Silberstein. P3 Nathan Brain Sciences Institute, Swinburne University of Technology, Melbourne, Australia

Reductions in nicotinic receptor density appear to contribute to impairments in attention and memory in patients with Alzheimer's disease. Animal models of Alzheimer's disease have included acute nicotinic blockade with mecamylamine, which produces impairments in memory. Impairments in human memory have also been observed following acute mecamylamine. The present study examined the effects of acute mecamylamine on attention and visual recognition memory in healthy, human subjects. Furthermore, we attempted to reverse the effects of mecamylamine using the anticholinesterase inhibitor donepezil.

Male nonsmokers (n = 6) with a mean age of 22 (±2.1) years attended three sessions, in which they were administered either placebo, mecamylamine (20 mg p.o.), mecamylamine (20 mg p.o.) and donepezil (5 mg p.o.). Accuracy on the Continuous Performance Task - AX version (CPT-AX) was significantly impaired by mecamylamine when compared to placebo (p < 0.05). There was no significant difference between placebo and the mecamylamine and donepezil condition. A delay-dependent accuracy effect of mecamylamine was observed for visual recognition memory, with a significant impairment, relative to placebo, with the 12 sec delay (p < 0.05), but not the 0.25 sec or the 4 sec delays. Again,
there was no impairment, relative to placebo, in the mecamylamine and donepezil condition. There was no effect of mecamylamine on reaction time in either task. Delay-dependent memory impairments have been observed in patients with Alzheimer’s disease, as have impairments in CPT-AX performance. The present findings add to evidence that loss of nicotinic receptor function in Alzheimer’s disease contributes to the cognitive impairments in this disorder. Furthermore, our findings indicate that impairments due to blockade of nicotinic receptors can be reversed by increasing the level of endogenous acetylcholine.

**P03.259** TEST-RETEST RELIABILITY OF STEADY STATE VISUALLY EVOKED POTENTIALS (SSVEP) DURING PRESENTATION OF AFFECTIVE COGNITIVE TASKS: THE EMOTIONAL STROOP (ES) AND THE INTERNATIONAL AFFECTIVE PICTURE SYSTEM (IAPS)

A.H. Kemp, P. Eide, C. Stough, R.B. Silberstein, P.J. Nathan. Brain Sciences Institute, Swinburne University of Technology, Melbourne, Australia

This study investigated the test-retest reliability of the Steady State Visually Evoked Potentials (SSVEP’s) produced whilst the participant completed the Emotional Stroop (ES) as well as the International Affective Picture System (IAPS). The ES requires participants to respond to the colour of either an emotionally positive, negative or neutral word as quickly as possible whilst the IAPS requires participants to rate each positive, negative or neutral picture presented in terms of its valence and arousal. The results of this study will guide future clinical electrophysiological research on emotional processing that proposes to use repeated administration of these tasks. This study is of utmost importance to determine the reliability over time of certain electrophysiological parameters that manifest themselves whilst healthy subjects undertake these tasks. Research on electrophysiological test-retest reliability is limited. Recently, two studies have suggested that the test-retest reliability for the behavioural measure (ie the emotional interference effect) of the ES is poor (Siegrist, 1997; Kindt, Bierman & Brosschot, 1996). Neither of these studies however, considered electrophysiological parameters associated with the completion of such a task. Preliminary results gathered at the Brain Sciences Institute have indicated that electrophysiological responsiveness may be distinguished from behavioural responsiveness and is possibly a more sensitive measure of physiologically effects. As many factors may contribute to the variability of the behavioural findings, it is of obvious theoretical importance to attempt to locate electrophysiological parameters whilst subjects are undertaking both tasks to determine if such parameters (milliseconds changes) are reliable from week to week. Electrophysiological parameters are possibly an important variable to consider when determining reliability of psychological tasks. The Brain Sciences Institute has developed a brain electrophysiological imaging technique called steady state probe topography (SSPT). This procedure enables cortical activity throughout the cerebrum to be probed during visual and non-visual tasks. The technique shows considerable sensitivity to cognitive and/or emotional factors and relative insensitivity to most EEG artefacts. SSPT involves examining the relationship between cognitive and/or emotional processes and the steady state visually evoked potentials (SSVEP). Strong cognitive and emotional effects of the SSVEP have been demonstrated when the stimulus eliciting SSVEP consists of a uniform visual flicker superimposed on the computer monitor presenting the cognitive tasks. However, it is not known if these changes are reliable and reproducible from week to week. Task specific changes with emotional tasks using the emotional stroop have been demonstrated previously (Silberstein, Robb, Stanley, Burrows & Pipingas, 1998) and although the IAPS has not been used as an activation task together with SSPT, it has been widely used and validated. Recordings were made on two consecutive days separated by one week and it was hypothesised that characteristic and consistent changes will be observed in terms of emotional valence. Preliminary results have been examined and the changes in the SSVEP parameters, phase and amplitude, for each of the two recordings support our hypotheses. Results that will be presented will use recordings from at least 16 healthy subjects and discussed with respect to the application of these tasks in a clinical setting.


---

**P03.260** BEHAVIOURAL TEST-RET Estability of TWO AFFECTIVE COGNITIVE TASKS: THE EMOTIONAL STROOP (ES) AND THE INTERNATIONAL AFFECTIVE PICTURE SYSTEM (IAPS)

A.H. Kemp, P. Eide, C. Stough, R.B. Silberstein, P.J. Nathan. Brain Sciences Institute, Swinburne University of Technology, Melbourne, Australia

The present study assessed the behavioural test-retest reliability of the ES and the IAPS in 22 healthy adult participants. The ES requires participants to respond to the colour of either an emotionally positive, negative or neutral word as quickly as possible whilst the IAPS requires participants to rate each positive, negative or neutral picture in terms of its valence and arousal. Research on the behavioural test-retest reliability of these tasks is limited. To date no test-retest has been completed on the IAPS. That is, no known study that has assessed how a participant's ratings of pictures that contain emotional content vary from one occasion to the next. Two studies however, have recently shown that the test-retest reliability for the behavioural measure (ie the interference effect) of the ES is poor (Siegrist, 1997; Kindt, Bierman & Brosschot, 1996). However, the present study assessed test-retest ES response times over a much shorter time interval than what was used in the Kindt et al (1996) study. A delay of three months between each assessment was considered excessive due to certain factors that could affect response in that period. Siegrist (1997) reported high test-retest reliability coefficients for ES response times for self-relevant words, but lower test-retest reliability coefficients for the interference effects (which is the response time for emotionally valent words minus response time for control words) of these self-relevant words. However, this only suggests that ES interference effects may not be stable in a healthy adult population and that we must observe these (interference) effects in a clinical population to determine reliability. It is important to have an understanding of task reliability especially when these tasks are being used in research on clinical populations and have application in determining response to drug treatment. Williams, Mathews & MacLeod (1996; Kalin, Davidson, Irwin, Warner, Orendi, Sutton, Mock, Sorenson, Lowe & Turski, 1997). The present study, using healthy adult participants, proposed to correlate the ES response times recorded one week apart for each of the stimulus categories, which differ in terms of valence (positive, negative and neutral). Preliminary results show response times for each of the categories were reliable from one week to the next and as hypothesised, no interference effects were apparent. Presentation of the photographic images is able to evoke a broad range of emotions, similar to those experienced outside the laboratory and it is the ratings on valence and arousal dimensions for each of these pictures that were correlated. Preliminary results also accord with hypotheses.

---

**P03.261** IMPAIRED SLEEP IN MALE TO FEMALE TRANSEXUAL PATIENTS TREATED WITH ESTROGENS


Steroids, including estrogen, participate in sleep regulation [2]. [3] For example estrogen replacement therapy improved sleep quality in postmenopausal women [1]. Patients, who undergo a cross-gender hormone therapy, receive high doses of estrogen. The effects of this treatment on sleep is unknown. To clarify this issue, we examined seven male to female transsexual patients (age range 31 to 44 years, mean±SD 35.9±4.2). The patients spent two nights in 2 separate occasions in our sleep laboratory. The first night of each session served for adaptation to laboratory conditions. In the second night sleep-electroencephalogram [EEG] was recorded from 23.00 h to 07.00 h. The first examination was performed before and the second about 3 months after initiation of cross-gender hormone therapy with a dose of 80–100 mg estrogen applied every two weeks. Additionally patients were treated with a starting dose of the anti-androgen cyproteroneacetate of 100 mg/day and after about 6 weeks with a maintenance therapy of 50 mg/dl in

---


---

