

### SES13. AEP Section Alcoholism and Drug Addiction: Nicotine dependence and its treatment – Part I

*Chairs:* A. Batra (D), F. Poldrugo (I)

#### SES13.1

The neurobiology of nicotine dependence and depression: common pathways and mechanisms

D.J. Balfour. *Department of Psychiatry, University of Dundee Medical School, Ninewells Hospital, Dundee, Scotland, UK*

It is now widely accepted that many habitual smokers become dependent upon the nicotine present in the smoke and that this explains why many fail to quit the habit successfully. This presentation will focus on the evidence that nicotine has the properties of a psychostimulant drug of dependence with regard to its effects on both behaviour and the neural pathways within the brain implicated in the neurobiology of dependence. This includes an ability to serve as a reinforcer in a self-administration experiment and to stimulate dopamine release from mesoaccumbens neurons. Additionally, repetitive administration of the drug results in a regionally-selective sensitisation of its effects on dopamine release in the accumbal core, a response that has been implicated in the transition from voluntary to Pavlovian responding for the drug. It will discuss the hypothesis that the delivery of nicotine in cigarette smoke optimises its addictive potential because it provides a route by which nicotine is delivered rapidly and repetitively to brain in the context of many sensory cues within the smoke that can serve as additional conditioned or secondary reinforcers. The presentation will also consider the extent to which underlying psychiatric co-morbidity, especially affective disorder, may contribute to the development of nicotine dependence. It will focus on the hypothesis that anhedonia is a symptom that is shared by both depressive disorders and nicotine withdrawal. The presentation will summarise the evidence that anhedonia can be ameliorated by nicotine and speculate on the neural mechanisms underlying this property of the drug.

#### SES13.2

Depression and smoking. Cause or consequence?

Y. Lecrubier. *France*

No abstract was available at the time of printing.

#### SES13.3

New treatments in tobacco dependence

K.O. Fagerström\*. *Smokers Information Center, Helsingborg, Sweden*

Nicotine replacement was the first effective pharmacological treatment for tobacco dependence. New administration forms are steadily added. Today there are gum, patch, nasal spray, oral inhaler, sublingual tablet and lozenges. Because of their safety they are gradually de-regulated and sold in regular shops in some countries. A more recent addition is Bupropion, an antidepressant, which was seen to be effective in reducing the interest in smoking. It is assumed to work through its effects on the re-uptake of dopamine and noradrenaline. Bupropion has a robust efficacy among healthy as well as among cardiovascular and chronic obstructive pulmonary patients. Many clinicians combine Bupropion and NR in

heavy smokers. Other drugs with some efficacy are nortriptyline, clonidine and glucose. Entirely new compounds for treatment are also under clinical development. A new approach – immunisation against nicotine – has been tested in animals for some years with promising results and is now under early clinical testing in humans. The exact indication of the "vaccine" is not yet known. It could be used for preventing relapse to smoking but it is possible that it also can assist in giving up smoking in the first place.

#### SES13.4

Neuropsychiatric drug treatments to promote smoking cessation. Present and future

I. Berlin\*. *Pitié-Salpêtrière University Hospital, Department of Pharmacology, Paris, France*

Therapeutic trials assessing the efficacy of antidepressants to promote smoking cessation have been based on clinical observations and epidemiological studies showing an intimate relationship between major depression and smoking.

One of the most important pharmacological basis of nicotine's action is its effect on presynaptic nicotinic receptors leading to release of dopamine, norepinephrine and serotonin in respective neurons. Drugs acting on neuronal re-uptake, inhibiting monoamine oxidases, or inhibiting presynaptic feed back mechanisms are all good candidates for smoking cessation. Most but not all drugs with these types of mechanisms of action have antidepressant properties.

Antidepressants with established efficacy in smoking cessation (bupropion, nortriptyline) seem not to act by their known effect on mood: they facilitate smoking cessation even when depressive mood is not present; the lag time to efficacy is short, some days, contrary to the usual few weeks' delay in depressive disorders.

Based on pharmacological considerations we will discuss future trends in developing new and old drugs in smoking cessation. Also, we will present main results of a randomized placebo controlled trial with a selective reversible monoamine oxidase B inhibitor.

Association of drugs acting on monoaminergic neurotransmission with nicotine replacement therapies may result in higher effectiveness than these drugs or nicotine alone. We will consider the potential advantages and drawbacks of these associations.

### S52. Fighting stigma and discrimination because of schizophrenia and other mental illness

*Chairs:* N. Sartorius (CH), L. Jacobsson (S)

#### S52.1

The programme against stigma and discrimination because of schizophrenia in Spain

J.J. Lopez-Ibor. *Spain*

No abstract was available at the time of printing.