

**FEDERATION OF EUROPEAN NEUROSCIENCE SOCIETIES**

**10<sup>th</sup> FENS Forum of Neuroscience**

2-6 July 2016 – Copenhagen, Denmark

<http://forum2016.fens.org/>

**PRESS RELEASE**

**EMBARGOED UNTIL MONDAY 4 JULY 2016 13.00 CEST / 12.00 BST**

**MORE THAN CHOLESTEROL TREATMENT:  
STATINS FOR DRUG ADDICTION**

Statins are drugs used for decades in humans to treat hypercholesterolemia, or very high cholesterol levels. But new research in France indicates that statins may also be useful in preventing drug addiction relapse.

Recent research has shown that alongside cholesterol reduction, statins also produce behavioural and neurobiological effects in the brain resembling the effects of environmental enrichment, suggesting positive effects on addiction. So **Dr Nathalie Thiriet** and her colleagues at INSERM in Poitiers, France explored whether statins might also mimic the anti-craving effects of environmental enrichment they have previously described.

In a series of experiments, Dr Thiriet's team tested how treatment with statins during abstinence from a drug might prevent relapse.

Using rats that self-administered cocaine, the scientists tested several drugs commonly used to treat high cholesterol, for the possibility that a long-term treatment with statins during abstinence from drug self-administration would prevent relapse. Additionally simvastatin was found to be effective in reducing craving for nicotine.

The research revealed that giving the rats a low dose of two specific kinds of brain-penetrating statins, simvastatin and atorvastatin, during periods of drug withdrawal, reduced cocaine seeking. These effects persisted even after discontinuation of the statin treatment. Another statin they tested, with low brain penetrability, did not have these effects. These results indicate that statins, by acting directly in the central nervous system, could reduce risks of relapse to addiction.

These effects were specific for drug seeking; drug taking was not altered – that is when people do not intend to stop taking drugs. In fact, if statins are administered to animals that have the possibility to actively self-administer cocaine, they would not stop their drug taking, suggesting that the direct effects of cocaine are not affected by statins.

Dr Thiriet hopes these findings may offer potential new pharmacological tools for treatment of relapse to cocaine and nicotine addiction. "As statins have been used for decades in humans with a relative safe profile, translation of these preclinical findings into treatments could be straightforward," she said today (4 July) at the FENS Forum of Neuroscience in Copenhagen.

Drug addiction, including nicotine addiction, is a chronic relapsing disease that represents a major health, social and economic burden to our societies. Dr Thiriet noted that although considerable information has been collected on the mechanisms of addiction, effective therapies are still very limited. Therefore finding new forms of treatment that may help drug addicts in their recovery efforts is a pressing necessity, she said.

Currently, Dr Thiriet's team, in collaboration with the Poitiers University Hospital, are conducting a clinical trial investigating whether statins may be effective in facilitating smoking cessation.

In future, Dr Thiriet hopes to further examine the effects of statins on addiction at the behavioural, cellular and molecular level.

**END**

**Abstract Reference** 0572 – C16e

**Poster** Statins as new medications to reduce the Risks of Relapse to Addiction

**Contact**

**FENS Press Office and all media enquiries:**

Elaine Snell, Snell Communications Ltd, London UK (*English language*)

tel: +44 (0)20 7738 0424 (*before 1 July and after 10 July*); or mobile +44 (0)7973 953 794

email: [Elaine@snell-communications.net](mailto:Elaine@snell-communications.net)

Metha Loumann, methamedia, Copenhagen, Denmark (*Danish language*)

tel: +45 60 82 04 03

email: [ml@methamedia.dk](mailto:ml@methamedia.dk)

**NOTES TO EDITORS**

**The 10th FENS Forum of Neuroscience**, the largest basic neuroscience meeting in Europe, organised by FENS and hosted by the Danish Society for Neuroscience will attract an estimated 6,000 international delegates. FENS mission is to advance research and education in neuroscience within and outside Europe, to facilitate interaction and coordination between its members. FENS represents 43 national and single discipline neuroscience societies with about 24,000 member scientists from 33 European countries. <http://www.fens.org/>

**Further Reading**

Statins Reduce the Risks of Relapse to Addiction in Rats. Chauvet C, Nicolas C, Lafay-Chebassier C, Jaber M, Thiriet N, Solinas M. *Neuropsychopharmacology*. 2016 May;41(6):1588-97. doi: 10.1038/npp.2015.317