and suicidal behavior in psychosis. Although clozapine is associated with a low likelihood of extrapyramidal symptoms and other neurological side effects, weight gain and metabolic side effects are well known in clinical practice exposing the patient to a greater risk of cardiovascular disorders, premature death, as well as psychosocial issues leading to non-adherence. The mechanisms underlying this pharmacologically activated disorders are still controversial. Based on our in vitro results, we have characterized in vivo the effects of the selective PKCβ inhibitor, Ruboxistaurin (LY-333531) on a preclinical model of long-term clozapine-induced weight gain. Cell biology, biochemistry and psychomotor tests have been performed on wild type and PKCβ (-/-) mutant mice to investigate the contribution of endogenous PKCβ and its pharmacological inhibitor on the neuroleptic effect of clozapine. Lastly, we also shed light on a novel aspect of the mechanism underlying of clozapine-induced weight gain, demonstrating that the clozapine-dependent PKCβ activation promote the inhibition of the lipid droplet-selective autophagy process, opening the way to new therapeutic intervention approach.

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EW0768

Changes in the cytokine profile in first episode, drug-naïve patients with psychosis after short-term antipsychotic treatment

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Introduction An increasing body of evidence suggests that antipsychotic medication can cause immunological changes that could be attributed to the amelioration of psychotic symptoms or the metabolic side effects of the drugs. So far, the results of the studies remain controversial.

Objective Our aim was to compare the levels of interleukin (IL) IL-2, IL-6 and transforming growth factor-β2 (TGF-β2) in drug-naïve, first-episode patients with psychosis before and after six weeks of antipsychotic medication.

Methods Thirty-nine first episode patients with psychosis were enrolled in the study. Serum levels of IL-2, IL-6 and TGF-β2 were measured by enzyme linked immunosorbent assay (ELISA) before and six weeks after the initiation of antipsychotic medication. In addition, clinical psychopathology was assessed using Positive and Negative Syndrome Scale (PANSS) before and after treatment.

Results Serum levels of IL-2 were significantly higher in the study group six weeks after the initiation of antipsychotic treatment ($P < 0.001$) while TGF-β2 levels were decreased ($P < 0.001$) and IL-6 levels were slightly reduced ($P < 0.004$).

Conclusion The changes in cytokine levels may be attributed to the action of antipsychotic medication and the remission of psychopathology. The reduction in TGF-β2 levels is observed in all patients and with all antipsychotic medications used. TGF-β2 may be a marker of clinical efficacy.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0769

Amelioration of impaired hippocampal cognitive performance in Alzheimer's disease via long-term intervention with ghrelin

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Introduction Alzheimers disease (AD) is a neurodegenerative disorder characterized by loss of memory and cognitive deficits. Ghrelin is a peptide hormone which has been linked to neuroprotection, memory and learning processes.

Objectives This study investigated the effects of ghrelin-induced memory retention on amelioration of cognitive deficits via restoration of long-term potentiation (LTP) and induction of synaptic plasticity in hippocampal CA3, using a rat model of AD induced by amyloid-β (1-42) injection.

Methods Five groups of male rats (230–270 g) including ghrelin-treated (200 ng/rat, [ICV], daily for two weeks), Aβ1-42 injected (5 μL/rat) and Aβ1-42 plus ghrelin-treated animals were designed. Ghrelin was administered after an ICV injection of Aβ1-42. To assess cognitive performance and the motor dysfunction, passive avoidance tests and open-field were performed, respectively. Step-through latency (STL) was evaluated as learning and memory index. Intrahippocampal field potential recordings were done.

Results Results showed that following Aβ1-42 injection, STL and induction of LTP were significantly decreased whereas ICV injection of ghrelin significantly enhanced memory retention by improvement of STL and restitution of LTP in the CA3 with increased EPSP slope and PS amplitude, suggesting the involvement of ghrelin in postsynaptic mechanisms of hippocampal LTP.

Conclusions It was revealed that neuroprotective effects of chronic ghrelin not only can enhance but also can restore LTP in the CA3 area in Aβ-induced AD. Results suggest that ghrelin may be considered as a promising therapeutic agent to alleviate cognitive deficits of AD.

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EW0770

Relationship between taste thresholds and antidepressant response: Preliminary findings

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Introduction In healthy volunteers, light acting through serotonin pathways, decreases the threshold for sweet, but not salt taste; similar to SSRI paroxetine. In depressive disorders, there is deficiency of serotonin throughput, which is remedied by SSRI medications, and results in improvement in symptoms of depression. Thus, we report on taste thresholds before and after SSRI treatment.

Objectives To study the variation in thresholds for sweet with SSRI treatment in depressed patients in short- and long-term.

Aims To compare the threshold for sweet (test) and salt (control) after 1 and 4 weeks of SSRI escitalopram therapy in depressed patients.
Methods The project was approved by the institutional ethics committee. Following informed consent, depressed patients were initiated on escitalopram 10 mg/d (increased to 15 or 20 mg, if required after 1 week,). Taste recognition threshold, intensity and pleasantness were measured for sweet and salt. Each tastant was made −1 to −3 (100 mM–1 mM). Regional recognition thresholds were determined at the tip of the tongue using a cotton bud well soaked in the tastant.
Results Three males and 4 females of mean ages 39.1 years completed the study. There was significant shift to the left for sweet thresholds between days 0 and 7, and 7 and 28 [F(Dfn, Dfd) = 9.242 (4.162) $P < 0.0001$]. A similar shift to the left was seen for salt but day 7 only [F(Dfn, Dfd) = 6.213 (4.162)].
Conclusion The increase in serotonin throughput as envisaged through SSRI treatment was paralleled by decrease in sweet thresholds.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0771

Metabolic outcomes of Red yeast rice administration in patients treated with second-generation antipsychotics

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Rationale Second-generation antipsychotics (SGAs) are notoriously associated with a wide range of metabolic adverse effects, and their chronic use is related with an increased risk for the development of metabolic syndrome (MS). The nutraceutical approach to the management of MS might be a promising strategy in the prevention of cardio-metabolic risk. In this context, Red yeast rice (RYR) have been shown to have a lipid lowering effect in an increasing number of clinical studies.
Objectives The present study was aimed to explore the efficacy and safety of RYR treatment on metabolic parameters in a sample of subjects receiving atypical antipsychotics.
Methods Ten outpatients treated with atypical APs assumed RYR at single daily dose of 200 mg/day for 30 days. Total cholesterol, high-density lipoprotein cholesterol (HDL), low-density lipoprotein cholesterol (LDL), triglycerides, fasting levels of glucose, and glycated hemoglobin were determined.
Results RYR administration non-resulted in a statistically significant reduction of metabolic parameters in the study sample. However, a trend for total cholesterol (T0 vs. T1: 159.6 vs. 145.6) and LDL (T0 vs. T1: 94.1 vs. 77.6) decrease was observed.
Conclusions Our findings in patients receiving atypical antipsychotics did not confirm the beneficial effect of RYS on lipemic profiles previously found in subjects who do not take this class of drugs. Further clinical trials with adequately-powered and well-designed methodology are needed to better explore the RYS effectiveness on the SGAs-induced metabolic side effects.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0772

Preserved cognition and reduced age-related cognitive decline during treatment with angiotensin II receptor blockers: A 20-year follow-up study

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Introduction Modulators of the brain renin-angiotensin system (RAS) have been shown to improve cognitive functioning in several animal models of neuropsychiatric disorders. Moreover, the brain RAS has been considered a new target for the treatment of Alzheimer's disease (AD). However, there are no population-based follow-up studies supporting this hypothesis.
Objectives Cross-sectional and prospective relationships between cognitive decline and ARB treatment were examined in the population-based Kuopio Ischemic Heart Disease Risk Factor Study.
Aims To evaluate procognitive/antidementia capacity of orally delivered angiotensin II receptor blockers (ARB).
Methods The study was conducted on a sample of 1774 subjects (920 females, 854 males; age range at baseline: 42–61 years) from Eastern Finland. An established cutoff score of at least 2-point decrease in the Mini Mental State Examination over a 9-year follow-up was used to detect age-related cognitive decline in the cross-sectional setting. In the prospective setting, a hospital discharge diagnosis of dementia/AD was used as outcome variable. Cross-sectional relationships were determined with logistic regression and prospective analyses were conducted with the Cox proportional hazards model (both adjusted for relevant background variables).
Results Cross-sectional analysis displayed a decrease of the odds of cognitive decline ($n = 87$; 4.9% of participants) in those with ARB treatment; OR = 0.445, 95% CI: 0.22–0.90, $P = 0.024$. Furthermore, in the prospective setting, the risk of dementia/AD diagnosis ($n = 149$; 8.4% of participants) was significantly reduced in ARB treated participants; HR = 0.621, 95% CI: 0.40–0.98, $P = 0.038$.
Conclusions ARB treatment is associated with a decreased risk for age-related cognitive decline and dementia/AD manifestation.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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EW0773

The effect of Qing Huan Ling on the hypoglutamatergic schizophrenia model in mice

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