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THE ASSOCIATION OF SERUM NESFATIN-1 AND GHRELIN LEVELS WITH METABOLIC SYNDROME IN SCHIZOPHRENIA PATIENTS

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Abstract
Nesfatin-1 and ghrelin are two hormones which has opposite effects and play role in food intake. This study was planned on the idea that both metabolic syndrome and psychiatric disorders are associated with nesfatin-1 and ghrelin. In this study, it was aimed to investigate the levels of ghrelin and nesfatin-1 in patients with schizophrenia, by taking confounding factor as the metabolic syndrome (MS). 55 patients with schizophrenia and 33 healthy controls were included in the study.11 out of the 55 patients (%20) has MS. Serum ghrelin and nesfatin-1 levels of schizophrenia patients with MS have been compared with both healthy controls and schizophrenia patients without MS. Patients with schizophrenia had significantly higher serum nesfatin-1 levels compared to healthy controls. But serum ghrelin levels was not different in both groups. Serum nesfatin-1 concentrations were significantly higher in the schizophrenia patients with MS (10.51-350.8 pg/ml) with respect to the healthy control group (4.86-68.91 pg/ml). There was no significant statistical difference between the three groups in terms of ghrelin levels. Our findings suggests that, MS presence also contributed to significantly high levels of nesfatin-1 level. Nesfatin-1 may have a part in a novel studies regarding the treatment of schizophrenia and its metabolic effects.

Keywords: Schizophrenia, Nesfatin-1, Ghrelin, Metabolic Syndrome, Schizophrenia treatment

1. Introduction

Low activity, unbalanced nourishment, cigarettes and antipsychotic drugs used in schizophrenia patients would cause weight gain, diabetes, and impairments in their lipid profile (Kaiya et al., 1989; McIntyre et al., 2001; Henderson, 2002; Association, 2004). Compared to the general population, abdominal obesity, glucose intolerance, or diabetes mellitus, dyslipidemia, hypertension, and cardiovascular diseases occur more frequently in schizophrenia patients. These risk factors are called metabolic syndrome, which increases the cardiovascular disease risks by 25-50% (García-Bueno et al., 2014). Life expectancy of schizophrenia patients are shorter when compared to that of the general population. Suicide and cardiovascular disease are the most common causes of death in schizophrenia patients (Kaiya et al., 1989). It was found that the basis of metabolic syndrome is a damaged response to the tissues in insulin and insulin resistance dependent hyperinsulinemia is developed (Wilcox, 2005)

It was hypothesized that neuroendocrine molecules play a role in the etiology of metabolic syndrome (Kaiya et al., 1989; Das and Khan, 1998). In recent studies, the important effects of molecules such as ghrelin and nesfatin-1 on weight and hunger mechanisms were reported(Gervois et al., 2007; Saetre et al., 2007). Ghrelin is a lipopeptide