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37TH MSPP SCIENTIFIC MEETING
KUANTAN 2024
9TH MEDICAL RESEARCH SYMPOSIUM

37TH MSPP ANNUAL SCIENTIFIC MEETING

in conjunction with

9TH MEDICAL RESEARCH SYMPOSIUM

ABSTRACT BOOK

INTEGRATING MISSION ORIENTED RESEARCH IN MEDICAL SCIENCES

WED & THU
11 & 12 SEPT 2024

TIME
8:00AM - 5:00PM

VENUE
AC HOTEL BY MARRIOTT
KUANTAN, PAHANG, MALAYSIA

P030

Role of DBP and FGG Proteins in Obese Schizophrenia: A Proteomic Study

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Introduction: Both schizophrenia and obesity are complicated conditions that can have a major negative impact on an individual's health and quality of life. Even though each condition has been thoroughly researched on its own, the intersection of obesity in schizophrenia patients remains underexplored, particularly at the proteomic level. Using two-dimensional gel electrophoresis (2-DE) and liquid chromatography-mass spectrometry (LC-MS), this study aims to identify the differently expressed proteins in obese schizophrenia patients compared to obese non-schizophrenia controls. **Materials and method:** This comparative cross-sectional study used plasma samples from 20 subjects. Protein extracts from plasma samples of obese schizophrenia patients (n=10) and obese non-schizophrenia controls (n=10) were separated using 2-DE. Statistical analysis was performed using Independent Student's t-test to determine the protein expression patterns between groups using PD Quest Software. Then, the differently expressed protein spots were excised and identified via LC-MS. **Results:** The study identified two proteins with significant differential expression ($p < 0.05$) in obese schizophrenia patients compared to obese controls. Vitamin D binding protein (DBP) and Fibrinogen Gamma Chain (FGG) were found to be differently expressed. DBP is known for its role in metabolic regulation and immune response. While FGG involves in coagulation and inflammation processes, indicating a possible increase in cardiovascular risks including obesity. The different expressions of these proteins suggest potential disruptions in various metabolic and inflammatory pathways which could provide

insights into mechanisms linking obesity and schizophrenia. **Conclusion:** These findings highlight the distinct proteomic profile associated with obesity in schizophrenia patients. These proteins could serve as candidate biomarkers for understanding the pathophysiology underlying the comorbidity of obesity and schizophrenia. Further research is needed to discover the exact role of these proteins and their potential as therapeutic targets.

Keywords: Schizophrenia; obesity; proteomic analysis