ASSOCIATION BETWEEN PSYCHOLOGICAL STRESS AND INSULIN-LIKE GROWTH FACTOR-1 (IGF-1) WITH ACNE VULGARIS: ORIGINAL RESEARCH

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Abstract

Psychological stress could act as a precursor of acne. Insulin-like growth factor-1 (IGF-1) is a hormone that released as a result of stress. This study aimed to determine the association between psychological stress and IGF-1 with acne vulgaris. This study employed a case-control design, involved 56 adult subjects with acne vulgaris aged 14-65 years old who came to the Dermato-Venereology Outpatients Units of Sanglah General Hospital, Denpasar and had not received treatment. Blood sample was collected for IGF-1 examination The stress index was conducted with in-depth interviews with the Holmes-Rahe stress scale test method. From a total of 56 subjects, 31 (55.4%) subjects were included as case group (acne) and 25 (44.6%) subjects as control group (without acne). The median IGF-1 of acne and without acne groups was 146 (90-179) ng/ml and 110 (18-165) ng/ml, respectively (p < 0.001). The stress index in patients with acne was significantly higher compared to control group (p < 0.001). Analysis with logistic regression revealed that BMI ≥ 25 was a factor which associated with severe acne. It can be concluded that blood levels of IGF-1 in acne patients were significantly higher than those without acne. Patients with acne have higher stress index than the patients without acne. Furthermore, body mass index is associated with severe acne vulgaris, but not for high IGF-1 and stress.

Keywords: psychological stress, IGF-1, acne vulgaris