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ORIGINAL ARTICLE

Serum and salivary adipsin levels and its association with insulin resistance in acne vulgaris patients

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Abstract

Background: There is scarcity in literature about the reliability of salivary markers in acne vulgaris.

Aims: The aims were to evaluate the insulin resistance (IR) and adipsin levels in serum and saliva in a sample of acne vulgaris patients; and to correlate IR and adipsin levels with the disease severity.

Methods: This prospective case–control study included 60 acne vulgaris patients (patients Group), in addition, 60 apparently healthy individuals (control group). The severity of acne vulgaris was determined according to Global Acne Grading system (GAGS). Serum and salivary adipsin, fasting glucose, and fasting insulin levels were measured using ELISA kits.

Results: Fasting glucose, fasting insulin, and homeostasis model assessment of insulin resistance (HOMA-IR) in patients group both in serum and saliva were elevated when compared with the control group. Serum and salivary levels of adipsin and Quantitative insulin sensitivity check index (QUIKI) in patients were decreased than the control group. Adipsin serum levels show significant negative correlations with all study variables except QUIKI with which the correlation was positive both in serum and saliva. There was a significant positive correlation between serum and salivary adipsin levels ($r = 0.873$, $p < 0.00001$) and serum and salivary fasting glucose ($r = 1$, $p < 0.00001$).

Conclusion: Adipsin could be considered as a promising biomarker for acne vulgaris and its associated insulin resistance. Moreover, the salivary measurements may be considered as useful biomarkers in acne vulgaris patients, but more studies are still required.

1 | INTRODUCTION

Acne vulgaris is among the commonest inflammatory cutaneous disorders affecting sebaceous areas of the body. In cases of acne vulgaris, cells of sebaceous glands (sebocytes) express adipokines. It has been shown that toll like receptors and systemic anti-acne therapy like isotretinoin can regulate sebocytes adipokines expression.[1,2]