

Visfatin, Omentin -1 and lipid profile in patients with psoriasis and their relation to Disease severity

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ABSTRACT

Psoriasis is a chronic, autoimmune, and inflammatory disease of unknown etiology. The association of the novel adipokines visfatin and omentin-1 with psoriasis is still obscure. Data concerning other inflammatory diseases suggest a possible role of these adipokines in the pathophysiology of psoriasis. The present study represents a retrospective case –control study carried on 28 patients with plaque-type psoriasis and 30 healthy controls. serum and tissue visfatin and omentin-1 levels were measured by using the ELISA technique. Our results showed that Serum

KEY WORDS: Psoriasis, visfatin, omentin-1, lipid profile.

INTRODUCTION

Psoriasis is a common chronic inflammatory skin condition that varies in Severity, It is characterized by hyperproliferation and altered differentiation of keratinocytes, T lymphocytes infiltration, and vascular changes (1). Adipose tissue is known

PATIENTS AND METHODS

The present case control study included 28 patients with psoriasis vulgaris and

and tissue levels of visfatin in psoriasis group were significantly higher than controls (p-value=0.001, 0.04 respectively). There was a significant positive correlation between serum = and tissue visfatin levels and PASI score (r p = 0.003 and r = 0.39, p = 0.001. Serum omentin-1 level was significantly lower in patients group than controls (p-value = 0.017). Also, LDL was significantly higher (p-value = 0.029), HDL was significantly lower in psoriasis group than controls (p-value = 0.001).

to be an active endocrine organ regulating body metabolism by secretion of metabolically important proteins alled adipokines, csuch as leptin, adiponectin , visfatin, and omentin(2). visfatin has several proinflammatory and immune-modulating properties(3). decreased omentin level was reported in several proinflammatory states(4)

of samples at 2000 x g for 10 minutes was done and sera were separated and stored at -20° C

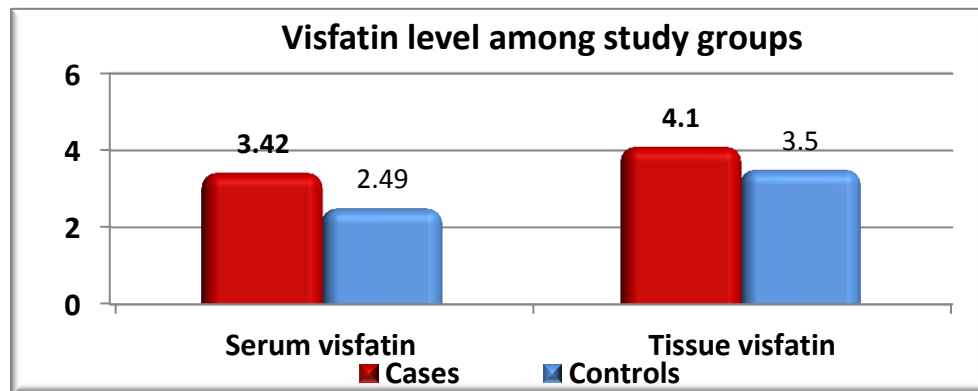
28 healthy controls, recruited from the Dermatology Clinic, Faculty of Medicine, Fayoum University. This study was conducted during the time interval from August 2016 to January 2017. Peripheral venous blood samples were withdrawn from 30 patients after fasting for 12 hours. Serum samples were collected into a serum separator tube. After clot formation, centrifugation

until analysis. Lipid profile (cholesterol, triglycerides, HDL and LDL) was estimated immediately after collection of serum. Visfatin and omentin-1 were estimated by ELISA. A skin punch instrument with a blade extends through to the fat to obtain a cylindrical specimen from the psoriatic plaque lesions. The skin biopsies were stored in an eppendorf at -70°C for ELISA examination for tissue visfatin and omentin-1.

RESULTS

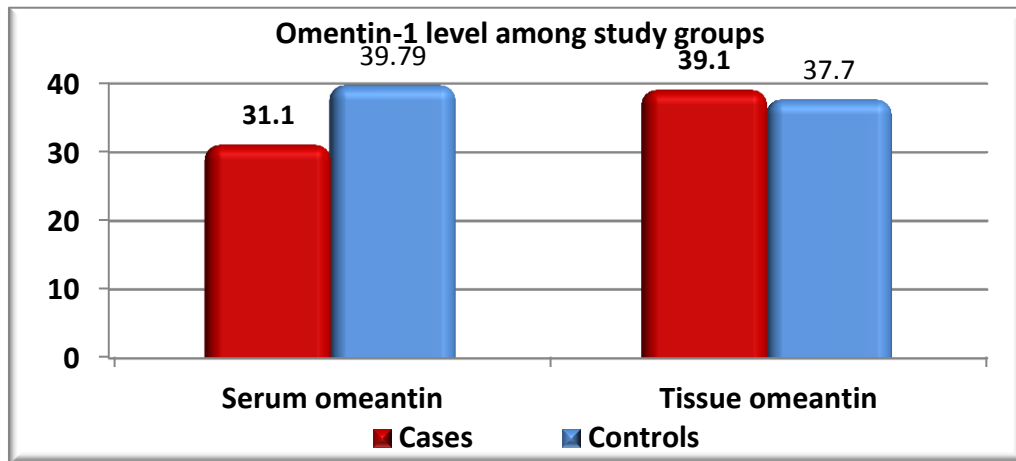
1- There was a statistically significant difference between cases and controls as regards serum and tissue visfatin levels with high mean of serum and tissue visfatin among cases.

Variables	Case (n=28)		Control (n=28)		p-value	Sig.
	Mean	SD	Mean	SD		
Visfatin						
Serum	3.42	0.56	2.49	0.55	0.001	HS
Tissue	4.1	1.4	3.5	0.67	0.04	S

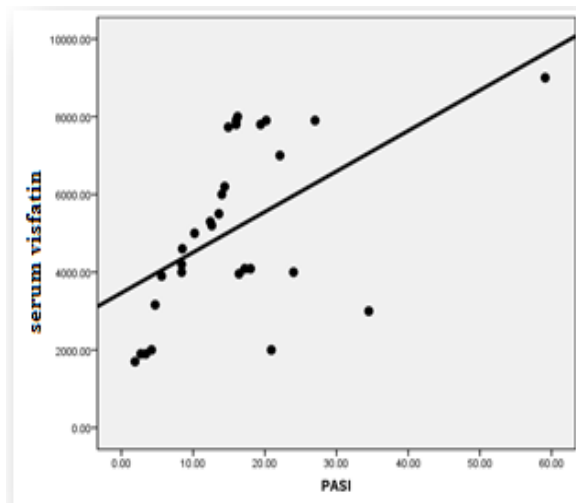


2- There was a statistically significant difference between cases and controls as regards serum omentin-1 level with low mean of serum omentin-1 among cases

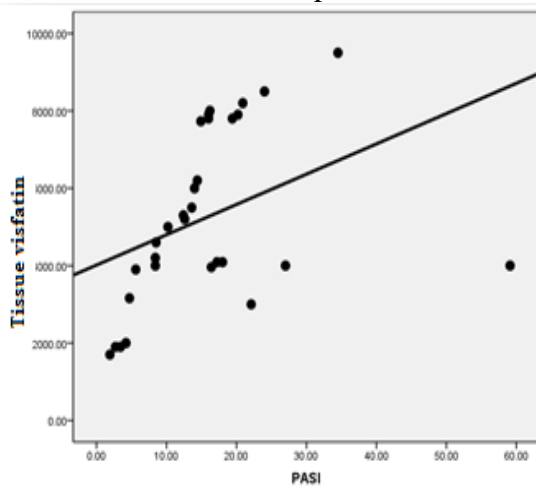
Variables	Case (n=28)		Control (n=28)		p-value	Sig.
	Mean	SD	Mean	SD		
Serum omentin1	31.1	2.6	39.79	19.2	0.017	S
Tissue omentin1	39.1	4.8	37.7	4.8	0.27	NS



3- There was a statistically significant positive correlation with p-value < 0.05 between serum visfatin and PASI score which represents disease severity .



4- There was a statistically significant positive correlation between tissues visfatin and PASI score which represents disease severity .



DISCUSSION

Psoriasis is a chronic, immune-, mediated hyperproliferative, and inflammatory skin disease of varying severity. The genetic, immunological and environmental factors contribute to the pathogenesis of The psoriasis. pathological mechanism in psoriasis involves cutaneous inflammation and keratinocytes hyperproliferation induced by an inflammatory cascade in dermis involving innate and adaptive immune cells(5). The role of visfatin in psoriasis might include modulation of the inflammatory or immune response as it induces chemotaxis and increases the production of IL-1, IL-6, TNF- α , and +costimulatory molecules by CD14 monocytes. This enhances their ability to induce proliferative responses (3). Our results revealed a statistically significant difference between patients and controls regarding serum and tissue visfatin with high mean among psoriasis patients ($p=0.001$, $p=0.04$ respectively), and there was a statistically significant positive correlation between PASI score and both of serum ($r=0.53$, $p=0.003$) and tissue visfatin ($r=0.39$, $p=0.001$).

CONCLUSION

Serum and tissue visfatin levels are increased in psoriasis patients and serum omentin-1 level is decreased and lipid profile is altered (high LDL, low HDL)

There was a statistically significant difference ($p<0.05$) between both groups regarding serum omentin-1 with low mean among psoriasis patients ($p = 0.017$). Also there was a statistically significant difference between patients and controls as regards HDL (p -value= 0.001) with low mean among patients and LDL (p value= 0.029) with high mean among patients. Our results were in agreement with **Ismael et al., 2012, Badran et al 2014** **Okan et al., 2016 and Zu Elfakkar et al., 2017** who reported that the serum level of visfatin in psoriatic patients was statistically significantly higher than the serum level of visfatin in the controls and there was a positive significant correlation between the serum level of visfatin and the PASI score. In agreement with **Taheri et al., 2014**, we found that LDL were significantly higher in the patients group and HDL were significantly lower in the patients group compared to the controls. Serum omentin-1 levels were significantly lower in psoriasis patients compared to controls ($p = 0.017$) that was in line with **Zhang et al., 2015** results who confirmed a significant decrease in serum omentin-1 levels in patients with psoriasis compared with healthy controls.

and visfatin levels were positively correlated with PASI score which refer to possible role of these findings in pathogenesis of psoriasis and potential cardiovascular comorbidity.

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