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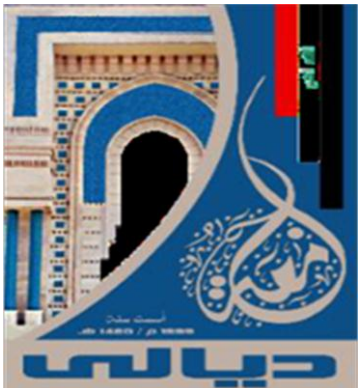

The Role of TGF-B1 ,TNF- a and IL 10 Signaling in The Pathogenesis of Psoriasis

A Thesis

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1.1 Introduction.

Psoriasis is an autoimmune disease characterized by chronic and recurrent inflammatory skin disease with approximately 2-3% prevalence all over the world (Parisi *et al*., 2011;Springate *et al*., 2017). The innate and adaptive immune response is responsible for chronic inflammation of the skin. It is characterized with hyper-proliferative disorder of skin in which dermal-epidermal junction drives keratinocyte proliferation and development of psoriatic plaque (Melikogu , 2017).

Plaque psoriasis is most common, the clinical feature and manifestation include scaly red plaques lesion on the scalp, elbow and knee. Less common types of psoriasis including psoriatic erythroderma, nail, pustular psoriasis and psoriatic arthritis are usually thought to be more severe entities of psoriasis(Griffiths and Barker, 2007).

Psoriasis is rarely life-threatening, it has a sharp negative impact on the patients quality of life and can be an economic burden. Therefore, research on the pathogenesis and therapy of psoriasis has been focused in the field of cutaneous disease studies (Sabat *et al*., 2007).

Also, studies suggest that local infiltrated T-cells and macrophages in the psoriatic lesion play a key role in the development of psoriasis through the release of numerous cytokines and chemokine's. Furthermore, anti-T-cell and anti-TNF-α therapy for psoriasis patients demonstrated considerable clinical efficacy in relieving the severity and symptoms of psoriasis (Sabat *et al*., 2007).

Psoriasis is a multifactorial disorder and be induced by trauma, injury, medications and infection as well as stress (Ogawa *et al*., 2018).

The etiology of psoriasis remains unclear, although there is evidence for genetic predisposition (Harden *et al*., 2015). Psoriasis causes great physical, emotional and social burden (Fuji *et al*., 2012). Psoriasis involves the skin and nails and is associated with a number of comorbidities. Skin lesion of psoriasis are characterized red papule and usually covered with silver or white scales. Lesions cause stinging, itching and pain (Bedi, 1995). Between(1.3%-34.7%) of psoriatic patients develop to the arthritis that lead to joint disability and deformations (Pariser *et al*., 2015). Between (4.2%-69%) of all patients suffer from nail changes (Reich *et al*., 2009:Alshami, 2010).

Disfiguration and marked loss of productivity are common challenges for patients. There is also a significant cost to mental well-being such as higher rates of reduction to negative effect (Sampogna *et al*.,2012).

Individuals with psoriasis are reported to be at increased risk of developing other serious clinical conditions such as cardiovascular and other non-communicable diseases (NCDs) (Vena *et al*., 2010:Augustin *et al*., 2015).

1.2 Aims of the study.

The study aims at: Evaluation of the transforming growth factor beta-1, tumor necrosis factor alpha and interleukin 10 in psoriatic patients attending the Baquba Teaching Hospital.

1- Epidemiological-demographic distribution of psoriasis in these patients.

2- Correlation between these cytokine and severity of disease.

Summary

Psoriasis is a multifactorial and inflammatory skin disease; the etiology is unknown. The clinical features are red, dry, itching and scaly skin. Lesions results from the hyper proliferation of skin keratinocyte cells. The hyper proliferation is caused by cytokines secreted by activation of the cells of immune system, an infiltrate of dendritic cells, T lymphocytes and innate immunity cells as well as the keratinocytes. A large number of cytokines have been shown to be raised in psoriatic lesion and serum concentrations, also associated with severity of psoriasis.

The aim of this study was to evaluate the role of TGF-B1, TNF-a and interleukin 10 in psoriasis which could help as predictive marker for severity of psoriasis in Baquba Teaching Hospital. This study included forty nine patients with psoriasis (27 males and 22 females) and thirty three healthy individuals (18males and 15 females). The ages of patients range between (7-70) years and healthy group(10-68) years. The study was performed in Baquba Teaching Hospital during the period from December 2018 till June 2019. Each case was diagnosed by dermatologist. Five milliliter of venous blood sample were obtained from each patient and placed in gel tube to separate the serum and stored at -80ºC.

The results of the study showed that the prevalence of psoriasis vulgaris in the patients were (89.8%) of cases. Guttat psoriasis were (4.1%), Erythrodermic (4.1%) and Nail psoriasis(2%). The result of TGF-B1 level showed highly significant differences in psoriatic patients than healthy individuals Mean±SD (8.25± 3.66) (P=0.005). Also the level of TNF-a showed very high significant difference in psoriasis patients than controls Mean±SD (52.63± 15.53) (P=0.001).