How to Cite:
Al-Hussain Khalil, M. A., Ewad, M. J., & Al Sultany, H. (2022). Determination the level of the alpha retinoid X receptor in the patients with chronic plaque psoriasis in the Iraq and its relation with disease severity. *International Journal of Health Sciences*, *6*(S5), 6376–6379.
https://doi.org/10.53730/ijhs.v6nS5.10124

Determination the level of the alpha retinoid X receptor in the patients with chronic plaque psoriasis in the Iraq and its relation with disease severity

Mohammed Abd Al-Hussain Khalil
Phd Clinical Biochemistry

Mufeed Jalil Ewad
Professor Biochemistry

Hussain Al Sultany
Professor Dermatology

***Abstract*---**The presence of the higher level of the alpha RXR is necessary because the VDR cannot bind on the DNA and this attributed to the VDR has short DNA binding hinge, when the alpha RXR has abnormality in its structure or it may inert this will be lead to the dimishimg the role of both calcitriol and VDR in decreasing the disease intensity and therby increase its comorbidities hyperproliferation among these group. The RXR are superfamily of the nuclear receptor consisted from three subclass include the alpha, beta and gamma members, the alpha RXR is only active members from the RXR family

***Keywords*---**alpha RXR, VDR, DNA.

Introduction

Psoriasis is considered a chronic inflammatory with immune background disease of the skin. It has a negative effect on the physical, emotional additionally of the psychosocial life of affected patients [1]. There are different environmental triggering factors such as infection or drug or may be secondary to the trauma or genetic factor [2]. Psoriasis is found in the entire world but the prevalence varies among the different ethnic groups [2]. There are many clinical cutaneous manifestations of psoriasis but the most common chronic, symmetrical, erythematous, thickening, and scaling disease of the skin [2]. The prevalence of

psoriasis is 3% and mostly in European and North America [3] and 0.16 % in Iraq in 2016.

The disease occurs in the different age groups with rare occurrences less than 10 years and greatly between 15-40 years, There is an unknown course disease with continuous remission and exacerbation [3]. The main reason is still unknown, Historically, psoriasis is considered a primary disorder of keratinocyte [4][5]. There is hyper-proliferation of keratinocytes and alteration in differentiation [6]. Genetic abnormality leads to keratinocytes hyper-proliferation which in turn, produces a defective skin barrier allowing the penetration of antigens which resulting in the immune response to that antigen(Ag) [7].

Material

Patients

All patients that were included in the presented study were collected from the department of dermatology after diagnosing the type of psoriasis as chronic plaque psoriasis by the specialist dermatologist that was founded in the department of the dermatology in the Marjan teaching hospital in al Hilla city.

Patients information such as name, gender, age, address, date of the onset and duration of the involvement, height, weight, and BMI calculation, presence or absence of the psoriatic co-morbidities, psychological stress, itching, erythema induration, and calculation of the PASI score are collected directly from the involved patients are directly collected from the patients after an interview with those patients and the documented in the questionnaire and finally patients signature.

Physical examination

The Physical examination such as height, weight, and BMI was applied to both participants group in the presented study which consisted of a major two groups that included the first group which is the patient group, and the second group which was the control group. All these parameters were calculated in the nutrition department in the Marjan teaching hospital in al Hilla city.

Clinical examination
Detection of the disease severity by calculation by using of the severity index (PASI score)

PASI score is a tool that is used for identifying the disease severity among the psoriatic patients depending on the major psoriatic signs which are the erythema, scaling, and thickness. PASI score considered a tool that is used for the monitoring of the disease among psoriatic patients and identifying the degree of the disease response to the treatment, when there is a lower degree of the PASI score, these mean a good response to the treatment, PASI score also used for detection the extent of psoriasis among patients [162].

Biochemical parameter
α Retinoid X receptor

In depending on the statistical analysis of the data in the presented study, there is a significant relationship between the level of the retinoid X receptor among both patients and control group as showing below in the Table 3-6

Table 1-1 Explain the difference in the concentration of the α RXR between both group in the presented study with degree of significant

	Group	Individuals No.	Mean ± SD	P value
α RXR ng/l	Patients group	89	22.2989±9.55601	**≤ 0.001**
	Control group	89	8.1467±4.39137	

Discussion

Alpha retinoid X receptor examination

The result of the presented study reveal to the hugher level of the alpha RXR psoriatic group than the control group and these elevated level is attributed to the deficiency of the vitamin D receptor because of the calcitriol deficiency which lead to increase the expression of the alpha RXR to replace these deficiency.

The linkage between the the alpha RXR and VDR is attributed to the alpha RXR is heterodimers for the VDR and play bivotal role in the action of the both VDR and calcitriol. These elevated level of alpha RXR has benefit for the psoriatic group to decreasing the severity of psoriasis by increase the transporting of the VDR from the nucleus to the DNA on the vitamin D response element.

The presence of the higher level of the alpha RXR is necessary because the VDR cannot bind on the DNA and this attributed to the VDR has short DNA binding hinge, when the alpha RXR has abnormality in its structure or it may inert this will be lead to the dimishimg the role of both calcitriol and VDR in decreasing the disease intensity and therby increase its comorbidities hyperproliferation among these group.

The RXR are superfamily of the nuclear receptor consisted from three subclass include the alpha, beta and gamma members, the alpha RXR is only active members from the RXR family, Notworthy the current study it may be is the only study that concentrate on the alpha members and explain its important role in the action of the calcitriol and in the function of the VDR and its role in the psoriasis and decreasing it severoity.

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