

Comparative Study between the Efficacy of Platelet Rich Plasma with Methotrexate and Methotrexate Alone in Treatment of Chronic Plaque Psoriasis

Thesis

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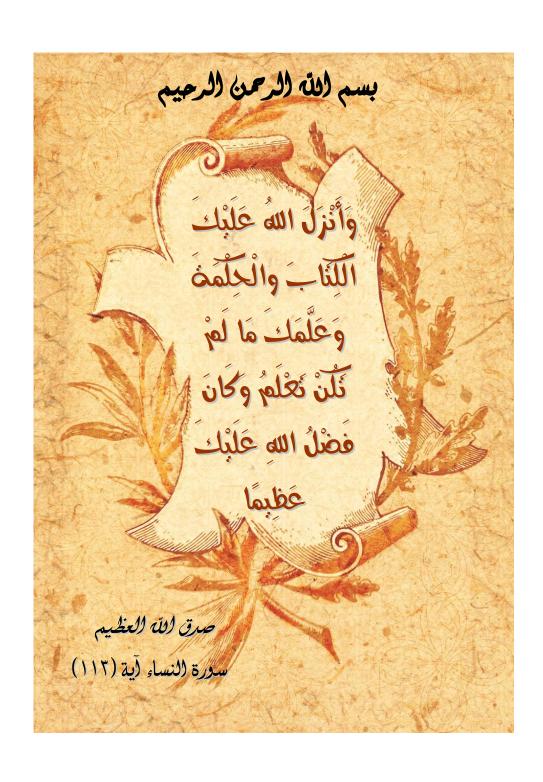
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Tist of Abbreviations

Abb.	Full term
ACD	. Acid citrate dextrose
	. Angiotensin converting enzyme inhibitors
BSA	
	. Carbon dioxide laser
	. Caroon atoxiae taser . Dermatology life quality index
	Epidermal growth factor
	Food and Drug Administration
	Fibroblast growth factor
	. Genome-wide association studies
<i>HGB</i>	_
	. Human leukocytic antigen
	. Insulin growth factor
<i>IL-12</i>	
<i>IM</i>	. Intra muscular
<i>IMID</i>	. Immune-mediated inflammatory diseases
<i>LFT</i>	. Liver function
<i>L-PRP</i>	. Leucocyte rich platelet rich plasma
<i>MTX</i>	. Methotrexate
<i>NAFL</i>	. Non-alcoholic fatty liver
<i>NASH</i>	. Steatohepatitis
NF-κB	. Nuclear factor kappa
	. Non-steroidal anti-inflammatory drugs
	. Psoriasis area and severity index
	. Platelet derived growth factor
	. Platelet-poor plasma
	. Pure platelet rich plasma
	. Platelet Rich Plasma
<i>PSA</i>	

Tist of Abbreviations cont...

Abb.	Full term
<i>PUVA</i>	Psoralen + UVA
<i>RBC</i>	Red blood cells
<i>TGF</i> -α	.Transforming growth factor-alpha
<i>TGF-β</i>	Transforming growth factor- β
Th1	T helper 1
Th17	T helper 17
Th22	T helper 22
TNF-α	Tumor necrosis factor alfa
UVB	Ultra violet A
<i>VEGF</i>	Vascular endothelial growth factor
<i>WB</i>	$Whole\ blood$
WBCs	White blood cells

Introduction

soriasis is a chronic immune-mediated disease affecting approximately 2-3% of general population. It is associated with significant vulnerability to co-morbidities such as cardiometabolic dysfunction, depression, and so on (*Schön et al.*, 2015).

The pathogenesis of psoriasis can be subdivided into two main phases: the sensitization phase and the effector phase (*Kon et al.*, 2010). During the sensitization phase specific effector and memory Th17, Th22 and Th1 cells emerge from naïve T-cells under the supervision of antigen presenting cells in secondary lymphatic organs. The effector phase is stimulated by exogenous triggers that activate skin- resident immune cells, which then secrete inflammatory proteins. These proteins lead to the infiltration of various immune cells into the skin where they activate each other and tissue cells, resulting in the characteristic visible psoriatic skin alteration (*Sabat et al.*, 2014).

Conventional treatment of psoriasis included topical corticosteroids, vitamin D analogues, anthralin, topical retinoids, calcineurin inhibitors, salicylic acid, coal tar and moisturizers. Phototherapy may be in the form of sunlight, UVB phototherapy, narrow band UVB therapy, goeckerman therapy, PUVA and excimer laser. Oral or injected medications in the form of retinoids, methotrexate, cyclosporine and drugs that alter the immune system (biologics) as TNF- α blocker and

interleukin-17 blockers that target and suppress NF-κB signaling (Feldman et al., 2013).

Methotrexate (MTX) acts by preventing the excessive division and multiplication of skin cells that causes the skin scaling and raised plaques in psoriasis (*Cather et al.*, 2014).

Platelet rich plasma (PRP) is used as an innovative therapy in diverse fields including dermatology, dentistry, surgery, orthopedics, and aesthetics (Lin et al., 2016).

Platelet Rich Plasma (PRP) has been a breakthrough in stimulation and acceleration of soft tissue healing. Platelet rich plasma is a rich source of growth factors such as insulin-like growth factor 1 (IGF-1), platelet- derived growth factor (PDGF), transforming growth factor-b (TGF-b), vascular endothelial growth factor (VEGF), epidermal growth factor (EGF) and fibroblast growth factor (FGF), which are believed to mimic physiological healing process through NF-κB suppression (Zhang et al., 2013).

Owing to this background, we hypothesized that PRP might be effective as an adjunct anti-inflammatory agent that would provide an attractive and risk-free (due to its autologus nature) combination option to manage hard-to-treat chronic plaque psoriasis.

AIM OF THE WORK

The aim of this work is to compare between the clinical efficacy of platelet rich plasma with methotrexate and methotrexate alone in treatment of chronic plaque psoriasis.