



**ORIGINAL RESEARCH PAPER**

**Dermatology**

**EFFICACY OF PLATELET RICH PLASMA AS MONOTHERAPY IN TREATMENT OF ALOPECIA AREATA.**

**KEY WORDS:** Alopecia Areata , platelet rich plasma ,Growth factors , SALT score

<b>Dr. Archana Rede*</b>	Junior Resident, Department of Dermatology, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati. *Corresponding Author
<b>Dr. V. V. Saoji</b>	Associate professor, Department of Dermatology, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati.
<b>Dr. S. N. Agrawal</b>	Professor and HOD, Department of Dermatology, Dr. Panjabrao Deshmukh Memorial Medical College, Amravati.

**ABSTRACT**  
**Context:** Alopecia Areata is an inflammatory auto-immune disease mainly affecting the scalp and other hair bearing areas. Platelet rich plasma (PRP) is autologous preparation of plasma with concentrated platelets which containing various growth factors and cytokines that enhance the body's inherent capacity to repair and regenerate hair follicles.  
**Aims And Objectives:** To evaluate the efficacy of platelet rich plasma as monotherapy in alopecia areata. **Materials And Methods :** Total 20 patients , in that 10 male and 10 female with alopecia areata will be enrolled in this study. PRP will be injected in alopecia sites (hairless patches) every 30 days for a total 4 sessions. Follow up will be taken every month for 6 months and pre and post treatment response will be noted by using photographs .

**Introduction-**

Alopecia Areata ( AA) is an inflammatory auto-immune disease mainly affecting the scalp and other hair bearing areas . Alopecia areata was first recognized as a skin disease by the Ebers Papyrus in 1500-2500 BC .Meanwhile , the term alopecia was first used by sauvages in 1760, which was then published by Lyons in 1760.<sup>(1,2)</sup> Based on an epidemiological point of view ,this disease affects 0.2% of the total world population . This condition can manifest in the form of small circular patches of hair that fall out to diffuse patches. The area often affected is the scalp.<sup>(2,3)</sup>

The exact etiology and pathogenesis of AA are currently not fully understood .However , it is believed that the condition is an autoimmune process through the autoreactive of CD8 + T cells .<sup>(4)</sup>

Alopecia areata affects the patients physically , psychologically And cosmetically .<sup>(2)</sup> Treatment of AA is not curative ,but controls or limits the pathogenesis process .Most treatments are immunosuppressive or immunomodulatory. Intralesional corticosteroid injection is the most commonly used treatment .Based on overall treatments ,the results have not been satisfactory ,and the response to treatment varies between individuals.<sup>(5-7)</sup>

Recently, PRP has been used in aesthetics and dermatology fields.<sup>(6,7)</sup> especially for wound repair.<sup>(8)</sup> Use of PRP for AA was reported without an allergic reaction. Platelet rich plasma (PRP) is autologous preparation of plasma with concentrated platelets which containing various growth factors and cytokines that enhance the body's inherent capacity to repair and regenerate hair follicles.

**AIMS AND OBJECTIVES :**

To evaluate the efficacy of platelet rich plasma as monotherapy in alopecia areata .

**MATERIALS AND METHODS :**

This is a prospective study that was conducted at Dr. Panjabrao Deshmukh Medical College and Hospital , Amravati from January 2021 to June 2021 in which total 20 patients , in that 10 male and 10 female with alopecia areata were enrolled in this study.

**Treatment protocol :**

Method to prepare PRP: - Collect 10-20 ml of patient's blood and mix it with anticoagulant such as Acid Citrate Dextrose (ACD). Platelet Rich Plasma prepared by two stage of

centrifugation process.

2 stage centrifugation process :

**First Centrifugation [Soft Spin]:**

Approximately 1500 rpm for 5 min, which separate blood into 3 layers, namely, bottom most RBCs layer, topmost acellular plasma layer [platelet poor plasma] and intermediate PRP. Using sterile syringe, platelet poor plasma , PRP and some RBCs transferred into another tubes without anticoagulant. And these tubes was undergo second centrifugation.

**Second Centrifugation [Hard Spin]:**

second centrifugation started at 2500 rpm for 15 min. This allowed the platelets to settle at bottom of tubes with very few RBCs. Platelet poor plasma was form at the top of the tube. Most of the platelet poor plasma removed and discarded. Remaining PRP collected into insulin syringe.

PRP injected in alopecia sites (hairless patches) every 30 days for a total 4 sessions. Follow up was taken every month for 6 months and pre and post treatment response noted by using photographs.

**Inclusion Criteria:**

- 1) patients in the age group 10 -50 years .
- 2) patients with disease stability of atleast one year duration
- 3) Alopecia areata Patient's without nail changes .

**Exclusion Criteria :**

- 1)Patients not willing to participate in the study .
- 2) Patients with certain blood and bleeding disorders
- 3) Patients with keloid developing tendency .

**RESULTS -**

Of 20 patients , only 2 patients had relapse . None of the patients had any side effects and all of them tolerated the procedure well .

**CONCLUSION :**

Alopecia areata is form of autoimmune hair loss without scarring , which affect the scalp with or without affecting the body . PRP therapy was introduced as an adjuvant therapy modality in AA .This therapy is easy to do and effective in Alopecia areata ,without side effects .

**Strong Factor -**

PRP treatment for Alopecia areata is effective ,safe and easy to perform procedure .

**Limitation-**

Procedure is relatively costly , painful and time consuming .hence we did this study in small population.



**Fig.1:** Clinical picture of Alopecia Areata over parietal region of scalp. Before treatment and After 4<sup>th</sup> session of PRP



**Fig. 2 :** Clinical picture of Alopecia Areata (in 13 Year Old Child) over parietal region of scalp. Before treatment and After 4<sup>th</sup> session of PRP



**Fig. 3 :** Clinical picture of Alopecia Areata (in 30 Year Old Female) over parietal region of scalp. Before treatment and After 4<sup>th</sup> session of PRP



**Fig. 4 :** Clinical picture of Alopecia Areata over beard area. Before treatment and After 4<sup>th</sup> session of PRP

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