



## EFFECT OF NON-SURGICAL PERIODONTAL THERAPY ON ANEMIA

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## ABSTRACT

Inflammatory cytokines can depress erythropoietin production leading to the development of anemia.

**Aim:** To assess the effect of periodontitis, an inflammatory disease, and non-surgical periodontal therapy on anemia of chronic disease. **Materials And Method:** 80 patients with chronic periodontitis were assessed periodontally by recording Gingival Index (Loe and Silness 1963), Plaque Index (Silness and Loe 1964), Pocket probing depth, Relative Attachment level (RAL). Hematological parameters: Number of erythrocytes (RBCs), Hemoglobin concentration (Hb), Erythrocyte sedimentation rate (ESR), Mean corpuscular volume (MCV), Mean corpuscular hemoglobin (MCH), Mean corpuscular hemoglobin concentration (MCHC) were assessed by withdrawing venous blood from ante-cubital fossae. Full mouth scaling and root planning was done at the baseline, after recording all the parameters. Patients were re-evaluated at 1-month and 3- months. **Results:** A significant difference was observed in all the parameters between different intervals and reduction in hematological parameters correlated with the improving periodontal parameters. **Conclusion:** It may be concluded that periodontitis may cause mild to moderate anemia and its treatment significantly improves hematological condition of patients.

**KEYWORDS :** Anemia, Chronic Periodontitis, Various Blood Parameters and Periodontal Parameters.

## INTRODUCTION

Periodontitis is an inflammatory disease of the supporting tissues of the tooth caused by specific micro-organism in a susceptible host. The inflammatory cytokines can depress erythropoietin production leading to the development of anemia. Anemia of chronic diseases (ACD) –mild to moderate anemia associated with chronic infections.

## Aim

To assess the effect of non-surgical periodontal therapy on Hematological parameters.

## MATERIALS AND METHODS

Materials : Mouth mirror , University of North Carolina probe (UNC-15), Ultrasonic scalers (Piezoelectric scalers ), Syringe (15ml), Torniquet , Test tube.

Method: Firstly, Periodontal parameters will be taken like : Gingival Index (Loe and Silness 1963), Paque Index (Silness and Loe 1964), Pocket probing depth (PPD), Relative Attachment level (RAL).

Under aseptic conditions about 5ml of the venous blood is withdrawn from ante-cubital fossae.

Secondly, Hematological parameters would be recorded such as :

Number of erythrocytes (RBCs),  
Hemoglobin concentration (Hb) ,  
Erythrocyte sedimentation rate (ESR),  
Mean corpuscular volume (MCV) ,  
Mean corpuscular hemoglobin (MCH),

Mean corpuscular hemoglobin concentration (MCHC)

After this full mouth scaling and root planning will be done at the baseline after collection of blood sample and after recording periodontal parameters which will be re-evaluated at 1-month and 3- months.

## RESULTS

As the time progresses there is reduction in periodontal inflammation leading to improvement in hematological parameters. The resolution of periodontal inflammation with improvements in RBC parameters provides evidence that Non –Surgical periodontal therapy (NSPT) alone can improve the anemic status of the patients with chronic periodontitis.

Chronic periodontitis leads to low- grade systemic inflammation and can also lead to signs of anemia.

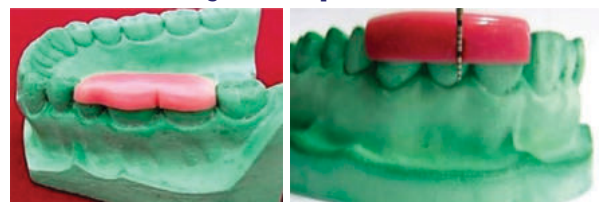
## Scaling And Root Planning



Before

After

## Stents For Measuring Pocket Depth On Cast



## CONCLUSION

All the parameters showed improvement and these results can be on the basis that as the time progresses, further reduction in periodontal inflammation leads to improvement in hematological parameters in which there is more improvement in anemia in female patients as compared to male patients.

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