

## **Efficacy of Platelets Rich Plasma as A Therapeutic Tool in Chronic Non-Healing Diabetic Foot Ulcers**

*Walaa A. Khalifa<sup>1</sup>, Hanan M. Abuelrus<sup>1</sup>, Essam Abdelmohsen<sup>1</sup>,*

*Hanaa M. Riad<sup>1\*</sup>, Eman Nasreldin<sup>2</sup>, Nada O. Abdelhameed<sup>2</sup>*

*Departments of 1Internal Medicine and 2Clinical Pathology, Assiut University Hospitals, Assiut University, Assiut, Egypt*

### **Abstract:**

#### **Background:**

One of the most prevalent and serious consequences in people with diabetes mellitus is diabetic foot ulcer (DFU). High management complexity, morbidity, and mortality are its defining traits. More efficient treatment methods are required since DFU therapy is still seen as frustrating and unsatisfying, even though new treatment alternatives are being developed. Objective: To assess the efficacy of using of platelet-rich plasma (PRP) on healing of DFUs in comparison to conventional therapy.

#### **Method:**

A randomized controlled clinical trial was conducted on 92 diabetic patients with DFUs. Those patients were randomly divided into two equal groups either study group in which PRP was used and applied locally to the wound followed by Vaseline gauze and sterile dressing, and control group where patients received standard therapy in form of debridement and dressing. Patients were seen twice weekly throughout

**the treatment course and clinical evaluation was performed once weekly.**

#### **Results:**

Both groups had insignificant differences as regard basic characteristics and laboratory data. Study group showed significant higher frequency of complete wound healing in comparison to the control group (73.8% vs. 30.4%;  $p < 0.001$ ).

Percentage of wound reduction in the size of the ulcer at the end of the study in comparison to baseline size was significantly better in the study group. Mean time to complete healing was significantly lower among study group in comparison to the control group ( $8.15 \pm 0.37$  vs.  $11.30 \pm 0.17$  (week);  $p < 0.001$ ). Conclusion: Autologous PRP significantly improved the complete ulcer healing in patients with DFUs. Well designed and adequately powered clinical trials are needed to confirm these findings.

#### **Keywords:**

Autologous platelet-rich plasma, Diabetic foot ulcer, Healing rate, Diabetes mellitus.