

## Orthopaedics-2021 “Insight into the pathogenesis of Autologous Platelet Plasma (APP)”

A Review Article-Amalia Kerl-Skurka \*  
Rheumapraxis Altstetten, Switzerland

**Introduction & Aim:** Evaluation of effectiveness of treatment for Autologous Platelet Plasma (APP) with and without patients with osteoarthritis; parameters are “Pain”, “Stiffness”, “Functional limitation”, normalized WOMAC index scores, timed 20 meter walk test before and after degenerative arthritis disease (gonarthrosis and coxarthrosis) and the intervertebral spinal cord symptomatology are one of the major health problem for the patients in the working age (30-60 years). Every third working person (between 30-60 years) suffers from joint diseases. The Autologous Platelet Plasma (APP) with or without ozone therapy can reduce the time of convalescence, allowing patients quick recovery and restart their work. The comfort is also better post therapeutic in this form of therapies.

**Methods:** Patients 124 – zw. 35-85 y gonarthrose, coxarthrose, 1-2 degree .

**Criteria for inclusion in the survey:** deforming OA of knee and hip joints; patient’s agreement to local treatment. 3 groups (50 patients) received basic treatment (non-steroidal anti-inflammatory drugs, physiotherapy, cartilage protectors, glucocorticoids); the second group (52 patients), in addition to the basic treatment, received APP injections, the third groups (22 patients) received APP injection and ozone therapy (autohemotherapy and local periarticular). All patients were examined before and after treatment using the WOMAC index (criteria “Pain”, “Stiffness”, “Functional limitation”), normalized scores of the WOMAC index and the timed 20 meter walk test. These parameters were studied before the therapy and 1, 3, and 6 months and 1 year after the therapy.

**Results:** The comparison of the third groups shows that during the first and the third months all the variables

decrease, although in the group given the APP treatment with or without ozone, this decrease is more marked. Six months later the indexes of the second and third group of patients continue to decrease as intensively whereas in the second and third group they do not change and an increase in all parameters is observed within a year. This dynamics indicate that the APP with and without has a prolonged effect and can enhance the effect of the standard therapy. As a result, one year later in the group of patients who received only APP treatment the indicator of “Pain” improved by 77.73%, “Stiffness” by 73%, “Functional limitation” by 75.45%; the total WOMAC index improved by 74.36% and the timed 20 meter walk test indicator by 68.72%. In the third group of patients who received APP treatment and ozone therapy. The indicator of “Pain” improved by 87.75%, “Stiffness” by 84%, “Functional limitation” by 84.45%; the total WOMAC index improved by 84.98% and the timed 20 meter walk test indicator by 78.85%. In the first group the changes were not as marked: indicator “Pain” improved by 24.5%, “Stiffness” by 21.45%, “Functional limitation” by 22.46%; the total WOMAC index by 22.95% and the timed 15 meter walk test indicator by 21.42%.

**Conclusion:** The utilization of APP injections with or without ozone therapy in the therapy of deforming OA is on average 52.04% more effective than the standard therapy. The latter usually gives a good therapeutic effect only during the first 3-6 months. These findings enable the expansion of the field of application of APP into the complex treatment of 1st-2nd degree OA of large joints. The effects include reduction of pain syndrome, an increase in the range of motion of the joint, improved locomotor function of the upper and the lower extremities, longer periods of remission of the disease.