



Short Article

Stem Cell Congress 2018: Treatment of hypothyroidism with intrathyroidal injection of autologous PRP - Vikram Pabreja- PabCyte, India

Vikram Pabreja

PabCyte, India, E-mail: isaacbruce.antibio@gmail.com

Abstract

Introduction: Hypothyroidism is a global health issue with a staggering 200 million people suffering around the world. Hypothyroidism can occur due to iodine deficiency or autoimmune conditions such as Hashimoto's thyroiditis. This study excluded post-surgical and drug induced hypothyroidism. Further this study is to expand the literature on the role of intrathyroidal injection of autologous PRP (platelet-rich plasma) on resident thyrocyte stem cells in treatment of hypothyroidism.

Methods: This study was carried out to investigate the effects of intrathyroidal injection of autologous PRP under ultrasound guidance on resident thyrocyte stem cells in treatment of hypothyroidism (less T3 T4 TSH), subclinical hypothyroidism (normal T3, T4 raised TSH) and autoimmune thyroiditis. Twenty seven patients were selected from the age group of 20-70 years. All patients had oral thyroxine tablets prior to intrathyroidal injection of autologous PRP. 20 ml peripheral venous blood was withdrawn after pharmacologic intervention with 5gm intravenous Omega 3 fatty acids (10%) and 5gm intravenous ascorbic acid without preservative. Further it was centrifuged at 3500 rpm for seven minutes to yield 8 ml of PRP. PRP was tested for microbial contamination before injection. 4 ml of PRP was injected in each lobe of throid

gland under ultrasound guidance. The patients were followed up for a period of one year with one month, three months and six months and one year interval. Thyroid function test, free T3, free TSH, anti TPO, anti TG antibody tests were assessed along with ultrasound of thyroid gland. Of 27 patients, 12 were male and 15 females. Females were categorized into three adolescent (age 14-29 yrs)/TSH 7-15 micro IU/mL, 10 (age 21-40yrs)/TSH 10-30 micro IU/mL, 2 (age 41-60yrs)/TSH 8-16 micro IU/mL. A total three injections were given at an interval of 15 days.

Results: Twenty five patients responded well to the treatment and improved after one month of injection. No adverse events were found during one year follow-up with significant decrease in serum TSH, anti TPO and anti Tg antibody values. T3 and T4 increased in primary hypothyroidism situations. Patients reported less lethargy, less musculoskeletal pains, better sleep, better concentration, improved mood, improvement in dry skin and hair loss and no weight gain from baseline.

Conclusion: It is evident that thyroid niche stem cells on stimulation have regenerative potential. Either new thyrocytes come up in the gland or earlier non-functional or hypo functioning thyrocytes get repaired and resume normal function. Thus, intrathyroidal injection of autologous PRP under ultrasound guidance can be a safe, better and effective therapy that can permanently rescue thyroid function.