

SP427

TO STUDY THE EFFECT OF ARTERIAL PULSE ENHANCEMENT TECHNOLOGY (A-PET) THERAPY USING VASCUPUMPTM FOR RELIEF OF SYMPTOMS IN RESTLESS LEGS SYNDROME (RLS) IN PATIENTS ON DIALYSIS

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INTRODUCTION: Restless legs syndrome (RLS) is a common disorder in patients on Hemodialysis and it can have a devastating effect on the quality of life. A recent meta-analysis showed that 25% of patients with chronic kidney disease on hemodialysis had symptoms of RLS. These symptoms can lead to increased morbidity with depression, loss of productive hours and quality of life. The current literature points to an association between RLS, hypertension, and peripheral vascular disease.

METHODS: A-PET therapy using VascuPumpTM was delivered in hemodialysis patients with symptoms of RLS. Fifteen minute treatment with synchronised compressions was given to these patients with pressure cuffs in both calves during every dialysis treatment. International Restless Legs Syndrome Study Group Rating Scale was used to assess the Severity of Restless Legs Syndrome (IRLSSG), scores range from 1-40 and higher scores represent more severe RLS. Wong Baker (WB) Pain Scale from 0-10 was used to assess the pain scores before and after treatment.

RESULTS: A total of 12 patients were included in the study. Average RLS score at start of the treatment was 25.4. Mean age of the patient population was 62 years (Range 22-77). Nine of these patients were Male, 3 were Female and 10 of these patients had Diabetes. A total of 75 treatments were delivered. The average WB pain score before and after treatment were 6 (2-10) and 2.54 (2-4) respectively. The average drop in the WB Pain scale was 2.8 (2-6). The response after cumulative 75 treatments was a 50% decrease in the WB Pain Score. There was a trend towards consistent decrease in the baseline WB Pain score of individual patients with approximately 6.25 treatments. The final average RLS score dropped from 25.4 to 20 (a drop of 5.4). Pain relief lasted for an average of 69.7 hours (range 3-149 hrs) after treatment. One patient had worsening cramps in the legs and withdrew from the study. There were no other complications observed after 75 cumulative treatments in these patients on dialysis. The sample size in this study was small and hence not statistically significant. Further studies are needed in the future to assess the benefit and to optimize the delivery of this treatment in larger populations.

VascuPumpTM works on the principles of Arterial Pulse enhancement Technology (A-PET) and uses external cardio synchronized pneumatic compression to enhance the antegrade blood flow down the limb. It is a non-invasive compression device using inflatable cuffs placed around the calf, to rhythmically compress the limb with each systolic pulse. Currently, there is no scientifically proven treatment available for patients with RLS and brief relief of symptoms in these patients did improve their pain and QoL.

CONCLUSIONS: Six sessions (Each for Fifteen minutes) of A-PET intermittent cardio synchronized pneumatic compression using VascuPumpTM during dialysis can provide upto a 50% relief of leg pain in patients suffering from Restless Legs Syndrome.

It was concluded that intermittent therapy during Hemodialysis treatments could potentially help with improvement in QoL . Further research is needed to widely recommend this therapy for patients with RLS.