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Case Study Report On Post Prandial Blood Sugar Using Single Bout Of Combined Physio Ball, Yoga And Resisted Exercises On A Type 2 Diabetic Patient.

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Abstract: *Single bout of combined yoga postures, Physioball and manual resisted exercise on a type 2 diabetic patient in a post prandial blood glucose experimental study where blood glucose level comes down from 260 mg to 216 mg with profuse sweating and increase in post exercise heart rate by 78% of the maximal heart rate being a high intensity work out.*
Key words: *Waist circumference: measured around xiphoid process. Physioball: air inflated ball of 55 cm is used in this study.*

I. Introduction

India with 60million known type 2 diabetic and Chennai with more than 18% as diabetic, this innovative study where yoga postures Physioball and manual resistance exercises forms a trio in reduction of post prandial blood sugar.

Mr.xxx aged 46 years known type 2 diabetic for 2 years on Metformin. Waist circumference: 88 centimeters, resting heart rate: 90/minute. Post exercise heart rate: 160/minute (78% of maximal heart rate) Combining of various yoga postures using physio ball and manual resisted exercises 1 ½ hours after breakfast, the patient following 20 minutes of high intensity workout has a reduction in post prandial blood sugar from 260 mg to 216 mg. patients had profuse sweating during exercises. A reduction of post prandial blood glucose with high intensity exercises using yoga postures and Physioball with 44 mg is an innovative means of reducing post prandial blood glucose.

Pushing the ball downwards at knee level where all the posture group of muscles of spine and lower extremities simultaneously contract.

Pushing the ball downwards at the knee level co contraction of both lower extremities muscles

Pushing ball at the heel level were co-contraction of all posture spinal and both lower extremities occurs.

Pushing the arms upwards manual resistances co- contraction of upper, lower extremities and spinal muscles occurs.

Palpation of pulse rate of the subject.

This single case study was done live on 04.09.2015 as part of presentation by the author at international Unani seminar in Chennai.

II. Discussion

Acute physical exercise reverses obesity induced TLR 4 activation and insulin signaling in obese rates(1) .post prandial high intensity exercise does not deteriorate glucose homeostasis but reduces both glucose concentration and insulin secretion(2).exercise induced reductions in glucose concentration and insulin secretion closely related to overall energy expenditure(3) exercise increases muscle blood flow, recruitment of muscle capillaries and glucose transporters; by an increase in muscle metabolic rate and by increasing insulin sensitivity(4) single bout of muscle contractions leads to a trans location of GLUT 4 to the sarcolemmal membrane, which acutely enhances glucose transport capacity(5).

III. Conclusion

Post prandial blood glucose reduction as shown in this case study should be tired on a larger sample size, female diabetic patients, including other physical parameters are suggested for further validation and future studies.

References

[1]. Alexandre G oliveira,BrunoM.Carvalho etal physical exercises reduces circulating lipopolysaccharides .Department of internal medicine, Brazil, ADA 2010.

[2]. J.J.S Larsen, F.Dela,S.Madsbad N Galbo.1999,the effect of intense exercise on postprandial glucose homeostasis in type 2 diabetic patients Diabetologia(1999) 42:1282-1292

[3]. Larsen J J,DelaF,kjaer M, Galbo N(1997) the effect of moderate exercise on post prandial glucose homeostasis in IVIDDM patients.Diabetologia 40:447-453

[4]. Dela.F,Mikines KJ SONNE B, Galbo M(1994) Effect of training onnineraction between insulin and exercise in human muscle J.APL.physiology 76:2386-2393

[5]. Kennedy J.V, nirshman MF,GERVINOev et al.Acute exercise induces GLUT4 translocation in skeletal muscle diabetes 1994 48:1192-97