79 - COMBINED EFFECT OF TRAINING IN HYPERTENSIVE INDIVIDUAL WITH OVERWEIGHT, POST-ABLATION OF WOLFF-PARKINSON-WHITE SYNDROME, ON FACTORS THAT TRIGGER ATRIAL FIBRILLATION

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INTRODUCTION

Quality of life can be considered as resulting from a set of parameters individual, social, cultural and environmental conditions that characterize the living being human, a community or a nation (Nahas, 2001 cited in Dantas, 2005).

According to Wilmore and Costill (2001), millions of people die of hunger every year most of the world, starting from many Americans are dying by the consumption excessive food. The authors also report that they are currently spending billions of dollars with overeating, which consequently leads to an expenditure of billions of dollars in weight loss methods.

Obesity is a multifactorial disease that may result from several factors genetic, physiological, environmental and psychological, which can provide the accumulation excessive energy in the form of fat in the body. (Yadav et al. 2001 apud Al Barbosa 2008). This abnormal accumulation of fat represents health risk and establishes a relationship with heart disease, such as hypertension.

"Atrial fibrillation (AF) is a supraventricular arrhythmia that occurs in a complete disorganized atrial electrical activity, causing the atria lose their ability contraction, not generating atrial systole "(Zimerman, 2009). The Wolff-Parkinson-White (WPW) syndrome is characterized by a short PR interval, the appearance of a wave and Delta by the lengthening of the QRS, according to the ACLS (2007).

There are now studies showing the effectiveness of exercise in control hypertension and in improving the quality of life of individuals with AF. As Rique say, Meirelles and Soares (2002), in his work on Nutrition and Exercise in Control of Cardiovascular Diseases, regular exercise has a therapeutic role important in the control of systolic hypertension (SH) and, although the mechanisms responsible are not yet fully defined.

As cited by Generoso and Navarro (2011), the American College of Medicine Sports, reports the importance of physical activity associated with health and has promoted theresults of the training against resistance in several studies to pathologies including hypertension.

This study aimed to examine the effects of an exercise program aerobic and muscular endurance on cardiovascular parameters in an individual with overweight, hypertension, post-ablation of Wolff-Parkinson-White about the factors that trigger atrial fibrillation.

MATERIALS AND METHODS

This case study was conducted on the premises of the Academy Fields - SESC in the city of TeofiloOtoni, Minas Gerais. We studied the individual VPS, sex male, 57 years, weight 80 kg, BMI 26.8, hypertensive patients with Wolff-Parkinson-White (WPW).

Periodic physical evaluations were performed during the training period that was of 3 months. We carried out measurement of heart rate and blood pressure measurements before, during and after training sessions.

Work with evaluation consisted of anthropometric measurements (weight, height,circumference) and skinfold thickness. Being weighed only swim trunks and barefoot, in a scalescientific Welmy brand, the measure of height was measured in the very balance using a rigid metal rod that reaches a height of 2 meters intervals in cm, so with the individual positioned back. The folds were measured with aadipometer scientist at Sanny, with verification of 9 skinfolds, measured 3 times, and the median of each withdrawal and a perimeter with a metal strip on a scale Sanny millimeter of 2 meters in length.

The data were analyzed statistically analyzed using t test Studant, using a significance level of $p < 0.05$.

MEDICAL HISTORY

The individual VPS was diagnosed with Wolff-Parkinson-White conduction pathway withanomaly located in the posterior left with the heart in 2005, asymptomatic, primary characteristic of the syndrome by the year 2005 when the symptoms of disease vigorously expressed. At first received medical advice to move away from physical activities that the picture was until it was fully understood by ablation surgery.

In 2006 came the first VPS ablation surgery, followed by improved frame. However, in 2010 there was recurrence, with installation of similar figures being performed a new ablation procedure with cauterization and complete interruption of the road anomalous WPW.

VPS during surgery led to a very easy one episode of atrial fibrillation that maintained, and it was necessary to carry out procedures cardiovenção 4 (CVE) during the entire procedure.

The patient also makes use of the following drugs: Pantocal ® - pantoprazole sodium,Hyperium ® 1mg - rilmenidine 1mg, Symbicort ® - formterolfumaratedihydrate / budesonideand Atacand HCT ® - candersatanacilexetil + hydrochlorothiazide.

HISTORY OF PHYSICAL ACTIVITY

VPS was marathon athlete in his youth from 1975 to 1991 and football playeramateur since I was 18 years old. He was sedentary since 2005, when the request wasCardiologist to interrupt the activities due to the diagnosis of WPW.

EXPERIMENTAL DESIGN

PSV made three weekly workouts at the gym. The training started with aerobic programin the initial weeks with the aim of cardiorespiratory adaptation

Arriving at the gym the individual received the Polar heart monitor FS2c, had their blood pressure measured by a digital Sphygmomanometer Onida brand. In was then subjected to a stretching session and forwarded to the mat, where walked for 15 minutes. At the end of time had their blood pressure and heart rate checked again, then follow horizontally to the stationary bike, which performed 15 minutes of exercise. At the end of this period, was again measured blood pressure and heart rate. After

the training, there was a second session stretching.

After the adaptation phase lasting three weeks, began training weathered, with a muscular endurance program (RML), alternated by follow-up, with the first objective of strengthening tendons, ligaments and joints, to better quality and resistance in the evolution of training exercises with 8, 4 lower limb (LL) and 4 for upper limbs (ULs). This training is for maintain aerobic work being done in the form of circuit without rest.

RESULTS AND DISCUSSION

As the weeks following training, was visible improvement in the provision in training,heart rate has not climbed as fast, and he succeeded after a pause for one minute to make the low frequency faster than occurred before. Even still taking antihypertensive medications, in a few days isolated, the individual came to the gym with high BP, which associate with causes external.

It was noted an improvement in heart rate, which increased the intensity of wake of 5.0 km to 6.0 km, the frequency that stayed in an average of 105 bpm in 6.0km was at 91 bpm. After the time of 15 minutes on the treadmill, the frequency trophy rose to 100 bpm, not to exceed this level during the 15 minutes thereafter, which indicates an improvement in cardiovascular fitness after four weeks of training.

With the progression of training intensity VPS has also evolved. This did not affect their BP that remained controlled during training and later to it. Even with the cargo growth, the volume of training was the same and he offered no complaints fatigue, or feeling bad because of the physical effort. The hypotension caused by exercise the end of the training sessions at allaffect the physiological condition of the same.

"The post-exercise hypotensive effect is associated with physiological changes, such as reflection modulator mechanism of clay, by hyperemia control of muscle contractions and suppression of sympathetic activity. "(Generoso and Navarro, 2011).

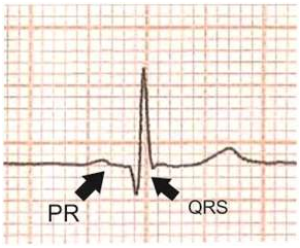

Figure 2: (Photo by electrocardiogram VPS after the second ablation of 28/05/2010, where the QRS interval is normal, with normal PR)

Table I: Tracking the Evolution of Circles.

Measures	Neck	Shoulder	Pectoral	Waist	Abdomen	Hips	Arm	Forearm	Thigh	Calf
05/12/2010	38,6 cm	106,7 cm	100,2 cm	96,5 cm	96,2 cm	97 cm	31,4cm	26,8 cm	53,9 cm	36,6 cm
06/02/2011	38,6 cm	106,3 cm	101,3 cm	93,6 cm	94,6 cm	96 cm	31,1 cm	27,0 cm	54,3 cm	37,3 cm
26/03/2011	37,0 cm	105,0 cm	102 cm	90,4 cm	90,2 cm	95 cm	32,0 cm	28,1 cm	56,3 cm	38,0 cm

Table II: BMI, Height and Weight

Measurement	Date	BMI	Height	Weight
01	05/12/2010	26,1	1,75	80
02	06/02/2011	24,4	1,75	74,6
03	26/03/2011	23,3	1,75	71,3

Table III: Tracking the Evolution of the skin folds

Measurement	Triceps	Subscapular	Biceps	Chest	Axillary	Abdomen	Suprailiac	Thigh	Calf
05/12/2010	17,8	28,4	5,0	17,1	18,9	21,1	16,3	18,1	4,8
06/02/2011	16,5	27,8	4,5	16,5	18,2	20,2	15,5	16,7	4,2
26/03/2011	15,7	26,2	4,1	15,9	17,4	18,2	14,8	15,9	4,0

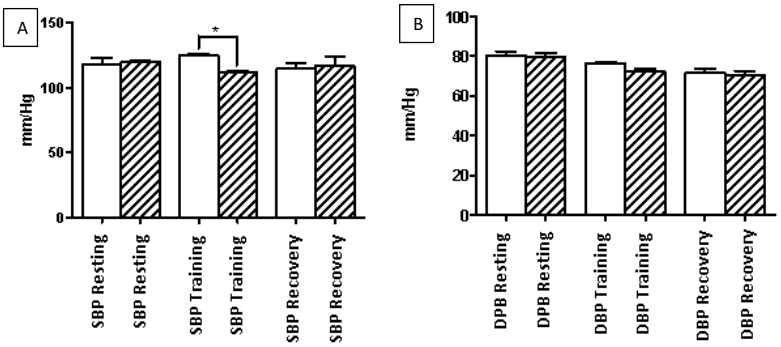

Figure 03.A. Average systolic blood pressure (SBP) and B. diastolic blood pressure (DBP); the first week of training (white bars) and in the last week of training (Striped bars). Data are presented as mean ± SEM. * P <0.05.

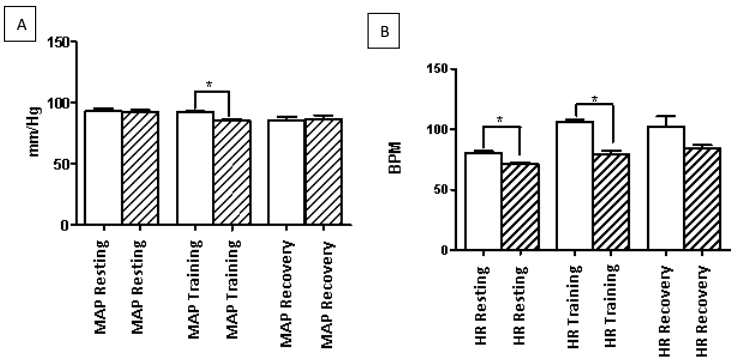

Figure 04.A. Average mean arterial pressure (MAP) and B. heart rate (HR) in first week of training (white bars) and last week of training (bars stripes). Data are presented as mean ± SEM. * P <0.05.

Tables I, II and III respectively show the evolution of the individual studied in relation to the circumference, height, weight and BMI and skinfold thickness. Where was the presenting weight reduction, reduction measures and possible increased fat-free muscle mass in some measurements of skinfolds.

Last week, SBP, MAP and HR (Fig. 03 and 04) were significantly smaller during training compared to the first week. The resting HR in Last week was also lower when compared to the first week of CF. The WFP is the pressure in a complete cardiac cycle, and is calculated as (MAP = DAP + 1/3PP), where PP is the difference between SBP and DBP.

Physical activity is an important resource in the prevention of atherosclerotic disease and effective adjuvant treatment, through cardiac rehabilitation. (Ghorayeb and COLS, 1998)

In addition to aerobic exercise, resistance training activities have increased their importance in cardiac rehabilitation (Rique, Soares and Meirelles, 2002).

Wilmore and Costill (2001), argue that obesity may contribute to a greater development of certain diseases, and weight reduction usually prescribed as an integral part of treatment.

The reduction of overweight and intra-abdominal adiposity and improved insulin resistance exercise may be aided by other mechanisms of action of this on hypertension according to Rique, Soares and Meirelles, (2002).

CONCLUSION

The combined training with the individual VPS, which underwent a procedure ablation to block an anomalous pathway of WPW, and later presented a framework AF, was able to control BP and HR. The individual did not show significant increases BP during training or after it, thus controlling hypertension. A reduction in weight with change in the classification of overweight for a weight within the normal range, going from 26.1 to 23.3 BMI. These results show reduction or control factors associated with the propensity for AF, which are old, overweight, obesity, hypertension and sedentary lifestyle. Thus, we conclude that the need for physical exercise is eminent to regulate these factors and provide an improvement in living conditions for the individual suffering from atrial fibrillation, resulting in better quality of life and longevity.

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COMBINED EFFECT OF TRAINING IN HYPERTENSIVE, OVERWEIGHT, POST-ABLATION SYNDROME WOLFF-PARKINSON-WHITE ABOUT FACTORS THAT TRIGGER ATRIAL FIBRILLATION.

SUMMARY

Exercise training has been recommended as the main agent in the treatment of atrial fibrillation by reducing the weight, control high blood pressure and thus decrease its action. Aims to determine the effects of combined training program an individual with overweight, hypertension, post-ablation of Wolff-Parkinson-White on factors that trigger atrial fibrillation. The training was conducted over a period of 3 months, and the individual has undergone an aerobic and resistance training at moderate intensity. There was a good evolution of the individual with a reduction in BMI from 26.1 to 23.6. Blood pressure was observed during the whole period there has been a slight decrease to levels where significant, the individual did not feel ill during or after exercise. This concludes that the combined training and moderate intensity exercise but significant effect in reducing the weight and in controlling atrial fibrillation.

KEYWORDS: Combined Training, Wolff-Parkinson-White syndrome, atrial fibrillation.

EFFET COMBINEDE FORMATION ENHYPERTENDUS, OBESES, POST-ABLATIONSYNDROME DE WOLFF-PARKINSON-WHITE SUR LES FACTEURSQUI DECLENCHENTLA FIBRILLATION AURICULAIRE.

SOMMAIRE

L'entraînement physiquea été recommandéquel'agentprincipal dansle traitement de lafibrillation auriculaireen réduisant le poids, le contrôle de l'hypertension artérielleet ainsi diminuerson action.Vise à déterminerles effetsdu programme de formationcombinéed'un individuà l'embonpoint, l'hypertension, post-ablationde Wolff-Parkinson-White sur lesfacteursqui déclenchentla fibrillation auriculaire.La formation a étémenée sur une périodede 3 mois, et l'individua subiuneaérobieet musculationà intensité modérée. Il y avait unebonne évolutionde l'individuavec une réductionde l'IMCde 26,1 à 23,6. La pression artérielleа été observéependant toute la période, il ya eu une légère baisseà des niveaux oùsignificative, l'individunese sent pasmalade pendant ouaprès l'exercice.Ceci conclutque la formationcombinéeet l'exerciced'intensité modérée, mais d'effet significatifdans la réduction dupoids età contrôlerla fibrillation auriculaire.

MOTS-CLÉS: CombinéFormation,de Wolff-Parkinson-White Syndrome, une fibrillation auriculaire.

EFECTO COMBINADO DEFORMACIÓN ENHIPERTENSOS, CON SOBREPESO, DESPUÉS DE LAABLACIÓN CONEL SÍNDROME DEWOLFF-PARKINSON-WHITE ACERCA DE LOS FACTORESQUE DESENCADENANLA FIBRILACIÓN AURICULAR.

RESUMEN

La práctica de ejercicioha sido recomendado comoel principal agenteen el tratamientode la fibrilación auricularmediante la reducción delpeso,controlar la presión arterialaltay por lo tantodisminuir suacción.Tiene como objetivo determinarlos efectosdel programa deentrenamiento combinado deuna persona consobrepeso, hipertensión, después de laablación deWolff-Parkinson-White en los factoresque desencadenanla fibrilación auricular.La capacitaciónse llevó a cabodurante un período de3 meses,y el individuoha experimentado unentrenamiento aeróbico y deresistenciade intensidad moderada. Hubo unabuena evoluciónde la personacon una reducciónen el IMC26,1 a 23,6. La presión arterialse observó durantetodo el períodose ha producido unligero descensoa niveles en losimportantes, el individuo no sesiente maldurante odespués del ejercicio.Estoconcluye queel entrenamiento combinadoyel ejercicio de intensidadmoderada, peroun efecto significativoen la reducción delpeso yen el control dela fibrilación auricular.

PALABRAS CLAVE: Formacióncombinada, síndrome de Wolff-Parkinson-White, la fibrilación auricular.

EFEITO DO TREINAMENTO COMBINADO EM INDIVIDUO HIPERTENSO, COM SOBREPESO, PÓS-ABLAÇÃO DE SINDROME DE WOLFF-PARKINSON-WHITE, SOBRE FATORES QUE DESENCADEIAM FIBRILAÇÃO ATRIAL.

RESUMO

A prática de exercício tem sido recomendada como principal agente no tratamento da Fibrilação Atrial, por reduzir o peso, controlar a hipertensão arterial e assim diminuir sua ação. Tem como objetivo verificar os efeitos de programa de treinamento combinado um indivíduo com sobrepeso, hipertenso, pós-ablação da Síndrome de Wolff-Parkinson-White, sobre fatores que desencadeiam a Fibrilação Atrial. O treino foi realizado num período de 3 meses, e o individuo se submeteu a um treinamento aeróbio e de resistência em intensidade moderada. Verificou-se uma boa evolução do individuo com redução do IMC de 26,1 para 23,6. A Pressão Arterial foi observada durante todo o período e notou-se uma leve redução a níveis consideráveis onde, o individuo não se sentiu mal, durante ou mesmo depois do exercício. Com isso conclui-se que o treinamento combinado e de intensidade moderada exerce sim efeito significativo na diminuição do peso e no controle da fibrilação atrial.

PALAVRAS-CHAVE: Treinamento Combinado; Síndrome de Wolff-Parkinson-White; Fibrilação Atrial.