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BALANCE TRAINING IS AN IMPORTANT COMPONENT OF THE REHABILITATION COMPLEX IN PATIENTS WITH VERTEBROBASILAR INSUFFICIENCY AFTER CARDIAC SURGERY (VALVE REPLACEMENT)

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Introduction: After valve replacement cardiosurgery (with extracorporeal circulation), some patients develop cerebrovascular insufficiency in the vertebro-basilar system with balance problems or ataxia signs. Our goal was to evaluate the prevalence of cerebrovascular insufficiency in old patients after cardiac surgery with extracorporeal circulation and to investigate the possible impact of balance training in the complex cardiac rehabilitation (CR) algorithm of these patients.

Material & Methods: We have observed 213 patients after cardiac surgery (7-10 days after aortic, mitral or tricuspid valve replacement). Patients were randomized into three therapeutic groups (71 per group). The control was done before, during and at the end of the CR course (of 10 treatment days), and one month after its end-using a battery of clinical methods and functional scales. In all patients, we applied a complex cardio-rehabilitation (CR) programme of physiotherapy and ergotherapy including cardio training, respiratory exercises (predominantly for external and internal intercostal muscles) and goal-oriented activities (standing up, walking and climbing stairs). Group (gr) 1, received only this CR programme. In gr 2, we added balance training exercises. In the next group (gr 3), we applied additionally coordination exercises for the upper and lower extremities.

Results: The statistical analysis of the results of functional assessments demonstrated significant improvement of circulatory parameters (response of arterial tension and pulse to physical activity); upgrade in cardiac functional parameters (holtercardiography; transthoracic echocardiography /ejection fraction), enlargement in autonomy (timed up and go test; functional independence measure–subscales of self-care, transfers and locomotion) in all patients. We observed bigger amelioration in trunk stability, balance and gait velocity in the second and the third groups (Tinetti test, Berg balance scale).

Conclusion: Balance training must be obligatory element of cardiorehabilitation algorithm in patients after cardiosurgery requiring extra-corporeal circulation

Biography

Ivet Borissova Koleva is a Medical Doctor, specialist in Neurology and in Physical & Rehabilitation Medicine (PRM) with 30 years of clinical practice in the domain of Neurorehabilitation. She has completed a PhD thesis on Physical Prevention and Therapy of Diabetic Polyneuropathy and a thesis for Doctor of Medical Sciences on Neurorehabilitation in patients with socially important neurological diseases. She received the titles of Associate professor (2006) and Professor (2010) in PRM. Currently, she is serving as a Professor in the Medical University of Sofia, Bulgaria. She is also the consulting PRM specialist of several university hospitals, including the National Heart Hospital of Sofia (Cardiorehabilitation Department). She is the author of scientific papers, monographs and manuals in the fields of Physical Medicine and Rehabilitation, occupational therapy, Grasp and Gait rehabilitation, functional evaluation, pain management. She is the Member of national and international associations of PRM and President of Bulgarian Neurorehabilitation Society and Editor-in-chief of the Bulgarian scientific journal *Neurorehabilitation* (since 2006).

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