Importance of Primary Prevention for Arterial Hypertension and Cardiovascular Risks

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Abstract

Summary Arterial hypertension is a mass, non contagious disease influenced by numerous risk factors and itself presents a risk factor for cardiovascular and cerebra vascular disease, kidney disease and peripheral blood vessel disease. (1) Therefore, primary prevention today contains cardiovascular risk assessment, based on SCORE (Systematic Coronary Risk Eva luation) charts which are used to assess ten years risk for initial (first) fatal arteriosclerotic event. Our research covered 39 subjects with arterial hypertension, both genders, aged between 40 and 54, who were motivated for decisive implementation of p rimary prevention measures in accordance with recommendations for cardiovascular diseases prevention and which are promoting healthy life style.

Index terms— primary prevention, arterial hypertension, cardiovascular risk, score.

1 Introduction

rterial hypertension is a mass, non contagious disease influenced by numerous risk factors and itself presents a risk factor for cardiovascular and cerebra vascular disease, kidney disease and peripheral blood vessel disease. Therefore, primary prevention today contains cardiovascular risk assessment. Based on SCORE charts (Systematic Coronary Risk Evaluation) a ten year risk for first fatal arteriosclerotic event is assessed (heart attack, stroke or other occlusive arterial disease including sudden heart death) and it is significantly changing depending on presence of relevant risk factors (1). Also, therapeutic intervention is necessary for any individual risk factor having in mind multifactor cause and multiplicative effect of individual risk factors to cardiovascular risk (2,3).

Base of cardiovascular disease prevention is healthy life style propagation, where preventive activities are based on continuous, repetitive education of patients, constant support for consistent behavior and monitoring the ways decisions are implementated. WHO stop smoking algorithm (5A) ask, assess, advise, assist, arrange -are certainly applicable for monitoring and correction of other risk factors as well (4,5).

2 II.

3 Materials and Methods

Trial was conducted in ZU SC "Poliklinika Semiz" Clinic in Prijedor and involved 39 subjects with arterial hypertension, both genders, aged between 40 and 54. From the group of patients which didn't had changes on target organs, individuals particularly motivated for life habits correction were selected, where correction included intensification of physical activities, reduction of smoking, correction of nutritive habits and body weight correction. The goal was to show that with life style change, with psychological support, nutritionist supervision, continued education and strong motivation on side of patient it is possible, for persons with arterial hypertension which are submitted to primary prevention measures implementation, to reduce overall cardiovascular risk by correction modifiable risk factors, with emphasis on body weight correction (6,7).

HTA diagnosis and assessment of changes presence on target organs were done trough detailed clinical approach, target organs condition assessment with appropriate diagnostic laboratory, radiology and echo sonographer methods. All patients were assessed for abdominal (visceral) obesity, which is characterized by accumulation of fat tissue as metabolically and endocrine active organ in areas of stomach, peritoneum, and around visceral organs. According to WHO, it is defined by waist circumference at ? 80 cm for female and ? 94 cm for male Caucasian. Even though the waist circumference (WC) as well as the WC and hip circumference ratio (WHR: waist to hip ratio) are important for assessment of cardiovascular risk, BMI remains the standard for overweight and obesity detection in everyday practice (5,6).

An retrospective -prospective analysis has been done. Statistical processing has been done using T-test paired samples (repeated measuring), in SPSS 20 program (8) and also using eta square formula (9). Therefore, primary prevention today contains cardiovascular risk assessment, based on SCORE (Systematic Coronary Risk Evaluation) charts which are used to assess ten years risk for initial (first) fatal arteriosclerotic event. Our research covered 39 subjects with arterial hypertension, both genders, aged between 40 and 54, who were motivated for decisive implementation of primary prevention measures in accordance with recommendations for cardiovascular diseases prevention and which are promoting healthy life style. The accent was on body weight correction with intensification of physical activities, diet correction and reduction of smoking. After 6 months of consistent application of primary prevention measures, statistically significant reduction of BMI values have been achieved between first and second measure readings. Influence of primary prevention measures led to statistically significant reduction of WHR values as well as statistically significant reduction of cardiovascular risk during 6 months of primary prevention implementation.

4 Global

5 Discussion

Recommendations of numerous world societies for cardiovascular diseases prevention in clinical practice are today clear and well documented. But there is a discrepancy between valid recommendations and consistency of its application in everyday clinical practice. The reason is probably in fact that it's still much easier to prescribe and consume a medicament than change existing life habits. Therefore it is a serious task for all health systems in world and demands plenty of energy and persistence. Strategy needs to be based on population and individual approach, coexisting together (10).

In our work we have shown that persistent implementation of primary prevention measures accomplished statistically significant reduction of values between first and second measuring during the six months period. (t=7,2; df=38; p<0.0005).

Influence of primary prevention measures to WHR led to statistically significant reduction of values between first and second measuring during the six months period. (t=7,3; df=38; p<0.0005).

Cardiovascular risk was statistically significantly reduced during the 6 months of primary prevention implementation (t=16.7; df=38; p<0.0005).

Manny authors like Di Chiara and associates followed mortality related to cardiovascular diseases and calculated percentage of contribution for risk control factors to reduction of overall coronary diseases mortality. Reductions in tobacco smoking, appropriate medical examinations of blood pressure and cholesterol concentration had reduced coronary mortality for over 50%. But in everyday practice target values of risk factor are below 50%. EUROSPIRE I and II studies (secondary prevention) and especially EUROSPIRE III (primary prevention) results were devastating, and according to them over the time in monitored population there was no reduction in number of smokers, any improvement in arterial pressure control and recorded increase of individuals with visceral obesity. Only improvement was in dyslipidemia control (11). On the other hand, integration of calculators and guided non pharmaceutical and/or pharmaceutical intervention with electronic health charts in New Zealand for primary health protection (PREDICT-CVD) has increased a rate of cardiovascular diseases selection from 4.7% to 53.5% (12,13).

Primary prevention is one of the greatest challenges of contemporary medicine (14).

V.

6 Conclusions

Implementation of primary prevention measures for patients with arterial hypertension, who are motivated for correction of life style and consistent throughout the entire 6 months monitoring has shown following:

Statistically significant reduction of BMI value was recorded between the first measurement and second measurement taken 6 month later.

Statistically significant reduction in WHR value in index of visceral obesity was recorded between the first measurement and second measurement taken 6 month later.

Cardiovascular 10 year risk from unwanted events was statistically reduces during the 6 months of primary prevention implementation.. Satisfactory results over the period of 6 months of primary prevention implementation were primarily result of consistency in behavior and strong motivation of the patient with wholehearted support of health workers during this difficult process. Individual approach

Figure 1: A

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