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Feasibility and Efficacy of Transradial Coronary Intervention in Elderly Patients with ST-segment Elevation Acute Myocardial Infarction

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Purpose:

This study aimed to evaluate whether the feasibility and efficacy of transradial coronary intervention (TRI) is similarly observed in elderly ST-segment elevation myocardial infarction (STEMI) patients.

Methods:

We retrospectively evaluated the clinical outcomes of 391 STEMI patients underwent percutaneous coronary intervention in our institute between January 2008 and December 2014. Of those, TRI was performed in 369 STEMI patients (93.8%).

Results:

Of the patients treated by TRI during the study period, 122 (33.1%) were aged ≥ 75 years and 247 (66.9%) were aged < 74 years. The procedural success rate was similar between the 2 groups (97.5% and 98.5%, respectively). One patient in the patients aged ≥ 75 years group was converted from the radial to femoral artery because of the tortuosity of the subclavian and common carotid arteries. The door-to-balloon time was similar between the 2 groups (44.9 vs. 42.7 minutes; $p = 0.39$). The peak creatinine kinase levels were lower in the patients aged ≥ 75 years than in those aged ≤ 74 years (2110 vs. 2599 IU/L; $p < 0.05$). The 30-day mortality rates were significantly higher in the patients aged ≥ 75 years than in those aged ≤ 74 years (5.7% vs. 1.2%, $p < 0.05$), which might be attributed to the fact that the patients aged ≥ 75 years more frequently had multiple coronary artery stenosis and more likely had a cardiogenic shock.

Conclusion:

TRI is equally feasible and effective for patients with STEMI aged >75 years and for younger patients. The prognosis of elderly patients with STEMI remains poor despite successful reperfusion with TRI, probably because of the complexity of coronary lesions.

European Crisis Affected Considerable Vascular Treatment in Elderly.

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Introduction

There are currently very few articles discuss the effects that has brought the crisis in Europe on the quality of medicine and, above all, in cardiovascular surgery.

This is an issue that affects millions of European citizens, because due to the crisis European hospitals have been forced to save a lot of money on materials: stents and prostheses and dismiss physicians.

Unlike in stable coronary syndromes there is no discussion whether patients should be better off in terms of prognosis and long term relief of symptoms after bypass surgery or coronary angioplasty or simply remaining on medical therapy, a difficult decision in individual cases that often leads to fierce discussions in our multidisciplinary meetings.

Conclusions

As we could see in our graphics and descriptions, the crisis in all European countries have important considerations in global health for their citizens.

As a conclusion we can say that 75% of European countries have difficult times and only Germany, France and United Kingdom can keep their status and give support to the health public system. The good quality of life gained in Spain last 25 years had lost after 2006. This phenomenon has relation with the cuts-and-cuts over the health system.

In general, Europe should seriously support health care system, as the birth rate has dropped significantly and the continent is considered too starym.Rozhdaemost increased in the first years of the new century due to immigration, but with a new immigration policy, this figure falls back and future generations is threatened.

We need to invest more in social programs rather than on military matters, which are currently a priority in Brussels.

Risk Factors of Screening for Cardiovascular Diseases in Brazil

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Introduction:

Screening for cardiovascular disease contributes to the identification of adults and is considered an important tool for forwarding these to the referral health system to define the diagnosis and correct treatment.

Objective:

To track the pre-disposed risk factors for cardiovascular diseases in cities of São Paulo, Brazil, through an educational campaign and develop health education actions aimed at health promotion and disease prevention.

Methods:

Quantitative character study, descriptive, cross-sectional, population-based survey type. Data were collected in 2015 while conducting thematic campaigns, which are part of the educational activities calendar of the Brazilian Society of Cardiology, Brazilian Society of Hypertension and the World Hypertension League, according to the World Hypertension League protocol and validated instrument fill. The actions involved in healthcare professionals. The sample was for convenience, including participants who spontaneously attended the public places of the event.

Results:

600 participants, mean age 59 + 14, in five cities of São Paulo, Brazil, where 345 participants reported experience a health problem. The identified risk factors were: Hypertension: 286 (47.66%), Diabetes Mellitus: 49 (8.17%) and hypercholesterolemia: 10 (1.67%).

Conclusion:

The screening strategy of risk factors for cardiovascular diseases identified the prevalence of pre-disposed factors in different communities, and promote positive actions to promote health. The educational process, pre-planned and implemented from campaigns for health promotion, is based on guidelines developed by experts in Brazil.

Identification of Risk Factors for Cardiovascular Disease among Brazilian Families

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Introduction:

Most of the population uses the National Health System as health promotion resource, disease prevention, diagnosis and monitoring of diseases, among them cardiovascular disease. Families are enrolled in Basic Health Units to enjoy these benefits.

Objective:

To identify risk factors for developing cardiovascular disease in families enrolled in the National Health System.

Methods:

This study is characterized by an exploratory approach to the field, descriptive and cross. Data were collected for analysis in order to identify the presence of risk factors for developing cardiovascular disease in families enrolled in the Unified Health System. The registration was done by students of 1st year of medical school of a private educational institution, in 2014, a city in the state of São Paulo, Brazil.

Results:

We covered 25 families totaling 157 individuals, 79 men and 78 women, mean age $55.66 + 14.03$ years. Among them, 30 (19.11%) had a diagnosis of hypertension and 11 (7%) of diabetes mellitus.

Conclusion:

The registration of families is another sensitive indicator to define, among users of the system, those that require greater attention to monitoring, education in lifestyle and strengthening for membership of treatment in order to prevent worsening these diseases.

Comparison of Parameters and Distance Hemodynamic obtained through two Different Stress Tests in Bmaximal Infarction Patients

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Introduction:

Acute Myocardial infarction is caused by lack of blood supply to the coronary arteries leading to ischemia may lead to necrosis of heart muscle.

Objective:

To compare the performance of infarcted cardiofuncional by minute walking test of six minutes and submaximal exercise test.

Methods:

Participants in the Cardiovascular Rehabilitation Program, conducted the 6MWT and the TE submaximal, analyzing the variables: distance, heart rate (HR), respiratory rate (RR), blood pressure (BP) and Borg Scale.

Result:

The comparison of the distance between the TE and 6MWT showed no significant differences, with the TE 400 + 222.36 and 6MWT 459 + 85.33, with $p = 0.21$. Analyzing HR TE in 6MWT tests and participants, we observed a significant difference in this variable, $p = 0.00 *$, as well as the comparison of pre and post SBP TE, $p = 0.00 *$ with SBP before and after the 6MWT with $p = 0.00 *$, but comparing pre- and BPD post TE $p = 0.04 *$, obtained significant difference and as the 6MWT did not obtain a significant difference with $p = 0:08$. As the perception of fatigue scale, Borg, there is a significant difference between pre and post the TE and 6MWT, $p = 0.00 *$ both.

Conclusion:

Based on the study results, it is observed that the distance and the variables analyzed as HR, SBP, DBP and Borg are physiologically compatible during and after the tests, suggesting the similarity between them.

Health Education in Primary Care in Brazil

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Introduction:

Health education plays a fundamental role in improving the population's quality of life because it is essential for the promotion of health, as it helps in preventing diseases. In Brazil, primary care appears as a privileged space for the realization of health education, considering the subject in its uniqueness, complexity, completeness and socio-cultural integration and may use the waiting room as a space for the promotion of health education.

Objective:

To report the academic experience of the first year of medicine forward the educational actions developed in the waiting room of Basic Health Unit (BHU).

Methods:

Educational practices in health were inserted, held at UBS waiting room, with service users, weekly, by pairs of students of the first year of medical school, one higher education institution in Brazil, in 2015, with verbal approach to prevention of cardiovascular diseases.

Results:

The participants of these activities 120 users UBS, with an average age of 65 years. Verbal directions with an emphasis on healthy lifestyles were held, adherence to drug treatment, questions for clarification about health and disease, addressing myths and truths on issues, high blood pressure and diabetes.

Conclusion:

It is believed that the waiting room constitutes a dynamic space and ideal for the development of educational activities, thereby giving medical students the practice of educational activities, with receptivity on the part of users of the health service

The Visit as Household Educational Practice Instrument in Cardiovascular Disease

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Introduction:

The Home Visit is one of the instruments best suited to providing health care to the individual, family and community. Health education is a continuous process, developed mainly in primary care in preventing cardiovascular disease and promoting health.

Objective:

To report the progress of students experience of medicine and describe the educational activities at home visit the hypertensive and diabetic patients.

Methods:

The visits were carried out by students of the first year of medical school, a private higher education institution in the state of São Paulo - Brazil, in 2015, accompanied by a teacher with verbal approach, following in monthly follow-being conducted three visits in half. Held measurement of blood pressure and blood glucose dosage in addition to the interview, related to lifestyle and treatment. Educational activities have been planned to establish education and self-care effectively.

Results:

Female, 81 years old, diagnosed with hypertension and diabetes. On the first visit the same showed BP 160/100 mmHg and blood glucose 110 mg / Dl, being oriented about the correct use of medicines and healthy eating with eating habits changing needs detected in the interview. On the second visit, BP 140/90 mmHg and blood glucose 98mg / dl, enhanced educational activities and on the third visit, BP 140/80 mmHg, blood glucose 105 mg / dl, with postprandial reference being approached about questions and present myths.

Conclusion:

There was demonstration of interest and satisfaction the actions taken, with responsiveness to students, and creating bond that results in trust and adherence to treatment, aiming at quality of life and prevent complications. It can be seen as relevant educational activities developed in the practice of home visits by medical school students.

Prognostic Importance of Orthostatic Hypotension in Diabetic Patients

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Introduction:

Cardiovascular autonomic neuropathy in diabetics is a common but often underestimated and underdiagnosed complication of diabetes mellitus. One of the most clinical apparent forms of cardiovascular autonomic neuropathy is orthostatic hypotension.

Objective:

To retrospectively assess the association of the orthostatic hypotension (OH) with macrovascular and microvascular complications of diabetes mellitus and to determine its effect on mortality.

Subjects and methods:

We retrospectively analysed 187 patients with diabetes mellitus (60 patients with diabetes type 1, mean age 42.2 years and 127 patients with diabetes type 2, mean age 57.8 years). Patients were divided into groups according to presence or absence of OH and type of diabetes. Association of OH with macrovascular and microvascular complications was evaluated and the effect of OH on 10-year all-cause mortality was also assessed.

Results:

OH was present in 31.7% of patients with diabetes type 1 (DM1) and in 32.3% of patients with diabetes type 2 (DM2). OH was positively associated with the prevalence of myocardial infarction in DM1 (OR=10.667) and with prevalence of stroke in DM2 (OR=3.335). There was also a strong association of OH and the prevalence of peripheral artery disease in both DM1 (OR=14.18) and DM2 (OR=3.263). Patients with both types of diabetes and OH had significantly higher prevalence of nephropathy (DM1 OR= 8.680, DM2 OR=3.237), retinopathy (DM1 OR=8.095, DM2 OR=4.078) and peripheral neuropathy (DM1 OR=17.143, DM2 OR=7.506) Overall 10 year mortality rate was higher in diabetic patients with OH.

Conclusions:

Presence of OH in diabetics is associated with higher prevalence of macrovascular and microvascular complications of diabetes mellitus and also with higher 10-year mortality.

Impact of Smoking into all-cause and CVD Mortality among Muscovites Aged 55 Years and Older.

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Aim:

To investigate the impact of smoking into all-cause and CVD mortality among Muscovites with CHD.

Methods:

the representative sample of 1,876 Muscovites (47.9% males and 52.1% females) aged 55 and older were examined in the baseline survey of the Stress, Aging and Health in Russia (SAHR) - the prospective population-based cohort study. The survey carried out in 2007-2009 with response rate 64,4%. Age, sex, smoking status and type of CHD were included into analysis. Smoking status was defined as never smoking, ex-smoker and current smoker. CHD was defined as `definite` and `possible` based on ECG by Minnesota Code and data from Rose questionnaire. During a median of follow-up period of 5.36 years, 332 deaths were identified. Hazard proportional risk model (Cox) was applied for hazard risks (HR) evaluation with 95% CI.

Results:

The prevalence of CHD among participants was 59,6% (56,8% males and 62,2% females). Smoking prevalence accounted for 17,8% elderly Muscovites (27,6% males and 9,5 females). Proportion of smokers in CHD patients was higher than in participants without CHD. After adjusting for age, sex the risk of all-cause mortality in patients with CHD was higher in current smokers (HR = 2.07; 95% CI: 0.52-2.81; p=0,0001). The similar results were obtained for CVD mortality (HR = 2.07; 95% CI: 0.52-2.81; p=0,0001). All-cause and CVD mortality significantly positively related to number of cigarettes (p0,05).

Conclusions:

Current smoking and amount of cigarettes positively and significantly associated with all-cause and CVD mortality in patients with CHD.

Time of Arrival at Hospital Impacts Time to Treatment of the Patients with ST Segment Elevation Myocardial Infarction

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Aim:

We investigated whether the time of arrival at hospital affect the time to primary percutaneous coronary intervention (pPCI) and the prognosis of ST-segment elevation myocardial infarction (STEMI) patients.

Methods:

Between January 2008 and December 2014, 532 STEMI patients underwent pPCI in our institute. Among them, those who were complicated with out-of-hospital cardiopulmonary arrest, or with left main trunk culprit lesion, diagnosed more than 24 h after symptom onset or with unclear onset times were excluded from the study. We evaluated the rest of 377 patients.

Results:

Of the patients treated during the study period, 222 patients arrived at our hospital between the hours of 9 am and 9 pm (on-hours group) and 155 patients arrived between the hours of 9 pm and 9 am (off-hours group). The door-to-balloon time and the door-to-cathelabo time were significantly longer in off-hour group than on-hour group (50.4 vs. 39.3 minutes; p0.001, 32.4 vs. 20.0 minutes; p0.001, respectively). Conversely, the onset-to-door time was significantly longer in on-hour group than off-hour group (246.4 vs. 134.0 minutes; p0.001). On-hour was more frequently to be transferred from general practitioner or non pPCI-capable hospitals to our hospital compared with off-hour (50.5 % vs. 21.3 %, p0.001). The procedural success rate (100 % in on-hour group and 99.4% in off-hour group; p=0.23) and the 30-day mortality (3.2% in both groups) were similar between the 2 groups. The peak creatinine kinase levels was similar between the 2 groups (2460 IU/L in on-hour group vs. 2413 IU/L in off-hour group; p=0.80).

Conclusions:

Onset-to-balloon time of on-hour patients was markedly longer than that of off-hour patients because of underusing of ambulance at the onset. For further improvement with prognosis in STEMI, the public awareness for the importance of direct access to pPCI-capable facilities is considered critical.

Some Features of the Treatment of Ciliary Arrhythmia in Patients with Ischemic Heart Disease in Combination with Diabetes

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Introduction:

The dystrophic changes in the cardiac muscle in patients with diabetes innocens result in dysfunction of the myocardium both auricles and ventricles.

Among antiarrhythmic drugs for treatment of paroxysmal and steady forms of ciliary arrhythmia there are drugs of IA class (chinidinum, disopiramidum, novocainamidum), drug of IC class (flecainidum, propaphenonum) and drugs of III class (amiodaronum, dofetilidum, sotalolum, ibutilidum) that are most often applied. For these purposes the preparations of III class most suitable, especially amiodaronum and dofetilidum.

Materials and methods:

We investigated efficiency of amiodaronum in 34 patients with ischemic heart disease having paroxysmal or steady form ciliary arrhythmia. Functional possibilities of these patients corresponded to II-III functional classes.

Results of research and their discussion. The analysis of results of treatment with amiodaronum has shown that cardioversion was more successful in 13 patients (81.3%) of the 1st group and in 11 patients (61.1%) of the 2nd group. After stopping paroxysms of ciliary arrhythmia or getting rarely to 2-3 per day in 11 patients (68.75%) of the 1st group and in 8 patients (44.4%) of the 2nd group. According to these data the antiarrhythmia activity of amiodaronum in patients with ischemic heart disease in combination with diabetes innocens of the 2nd type was lower than in the group of patients without diabetes innocens.

Conclusion:

- Amiodaronum results in expressed antiarrhythmic effect in the majority of patients with ciliary arrhythmia having ischemic heart disease and combination ischemic heart disease and diabetes innocens of 2nd type.
- The treatment with amiodaronum does not render negative influence on cardiohemodynamics in the investigated patients. The additional useful property of this drug is the antianginal effect.
- For more expressed antiarrhythmic effect in case of diabetes innocens it is necessary to combine amiodaronum with renitek or lozartan, aprovelum and also potassium drugs.

Prevalence of hypertension and physical inactivity in Brazilian academics

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Introduction:

In Brazil, cardiovascular diseases account for over 33% of deaths and projections of these comorbidities, for 2020, show that remain leading the fatality statistics. Hypertension and level of physical activity are important risk factors for the development of these diseases.

Objective:

To identify the level of physical activity and hypertension in health care teachers.

Methods:

To assess the level of physical activity was applied The International Physical Activity Questionnaire (IPAQ). To classify blood pressure, was conducted to gauge the indirect measurement of blood pressure (BP) following the recommendations of the VI Brazilian Guidelines of Hypertension, 2010.

Results:

53 participants, 45.13 ± 10.21 years. The classification of the level of physical activity, 4 (7.54%) were considered insufficient assets; 14 (26.49%) are sedentary and 35 (65.95) assets. In the classification of PA, great (120/80 mmHg) = 38 (71.65%); normal (130/85 mmHg) = 13 (24.57%) and borderline (140/90 mm Hg) = 1 (3.84%).

Conclusion:

Despite the stressful routine, high workload and little time for physical activities of teachers, it observed that in this population there is a relatively low rate of cardiovascular risk factors in question.

Effects of Long-Term Therapy with Testosterone Undecanoate Injections (TU) On Glycaemic Control In Hypogonadal Men: Real-Life Data From A Registry Study

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Objective:

Registry assessing long-term effectiveness and safety of TU in a urological setting compared to an untreated hypogonadal control group.

Methods:

Observational, prospective, cumulative registry of 656 men (age: 60.72±7.15 years) with testosterone (T) levels ≤12.1 nmol/L and hypogonadal symptoms. 360 men (T-group) received TU 1000 mg/12 weeks following an initial 6-week interval. 296 men opted against TTh (CTRL). Median follow-up in both groups was 7 years. Measurements were taken twice a year,

8-year data were analysed. Changes over time between groups were compared by using a mixed effects model for repeated measures with a random effect for intercept and fixed effects for time, group and their interaction. Changes were adjusted for age, weight, waist circumference (WC), fasting glucose, blood pressure and lipids to account for baseline differences between the two groups.

Results:

In T-group, 113 men (31.4%) had type 2 diabetes mellitus, in CTRL, 114 (38.5%).

Across all patients, fasting glucose (mmol/L) decreased from 5.65±0.7 to 5.23±0.05 (p0.0001) in T-group and remained stable from 5.57±0.36 to 5.56±0.34 (NS) in CTRL, model-adjusted estimated between-group difference at 8 years: -0.41 (p0.0001).

HbA_{1c} (%) decreased from 6.87±1.42 to 5.59±0.44 in T-group and increased from 6.09±1.22 to 6.38±1.44 in CTRL, between-group difference: -1.49% (p0.0001 for all).

The triglyceride:HDL ratio, surrogate marker for insulin resistance, decreased from 5.5±1.99 to 2.65±0.67 (p0.0001) in T-group and from 6.48±3.61 to 5.76±3.56 (p0.05) in CTRL, between-group difference: -4.02 (p0.0001).

The TyG index, surrogate marker for insulin resistance, decreased from 4.13±0.1 to 3.95±0.02 in T-group and increased from 4.1±0.09 to 4.13±0.09 in CTRL, between-group difference: -0.21 (p0.0001 for all).

Conclusions:

Long-term TTh with TU in hypogonadal men resulted in improvements in glycaemic control. There was a worsening except for fasting glucose in untreated controls. Long-term TU was well tolerated. Excellent adherence suggests high levels of patient satisfaction.

Importance of Measurement of Basal and Postprandial Insulinemia in Diabetic Patients for Calculation of Dietary Calorie Intake

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Background:

Hyperinsulinemia is one of most potent mechanisms of lipid storage in pathogenesis of obesity. Diabetic vasculopathy is predilected to small arterial vessels. Any endothelial damage is potential point for genesis of atheroma. So, whole vascular stream is predilected for changes in diabetics, large for atheroma formation, and small ones for microangiopathy. The goal of this paper is to analyses correlation of basal and postprandial glicemia and insulinemia with body mass index (BMI), in obese and no obese diabetic patients.

Methods:

Diabetic obese and no obese patients were analyzed. For all patients a calculation of BMI and basal fasting glicemia, and 60 and 120 minutes after meal were performed. Insulinemia was measured in the same timeframe.

Results:

Sixty patients were divided in two groups, 30 obese (23 women, 7 men, age 58,10±14,58) and 30 no obese (18 women, 12 men, age 50,73±20,01). Mean BMI in obese was 35,03±7,55, in non-obese 22,05±2,05. Mean basal insulinemia in obese was 10,95±6,27 µIU/ml, one hour after meal 41,64±49,93, and after two hour 41,93 ±49,38 µIU/ml. Insulinemia in no obese in same periods were 7,17±6,89, 25,99±36,47 and 26,19 ±33,19 µIU/ml respectively. Levels of glicemia, measured in same periods in obese were 11,30±4,92, 15,56±6,12 and 10,90 mmol/l respectively and in no obese 11,82±6,18, 16,85±8,43 and 16,78±8,50 mmol/L, respectively. The results show higher levels of insulinemia in every measurement, in obese than no obese patients. Correlation between BMI, basal and postprandial insulinemia was present at level of significance p=0,015. Basal and postprandial insulinemia were higher on obese than in non-obese group, at level p=0,031 calculated by ANOVA statistic.

Conclusion:

In obese diabetic patients both, basal and postprandial insulinemia were higher than in non-obese, so, calorie intake should be calculated for decrease of BMI, as the most important in strategy of treatment.

The Atherogenic Profile – A Predominant Lipoprotein Profile in Cardiovascular Diseases

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Objectives:

Identification of incidence of an atherogenic lipoprotein phenotype B in four representative diagnoses of cardiovascular diseases: a) arterial hypertension, b) coronary heart disease, c) lower extremity arterial disease, d) ischemic stroke

Methods:

A clinical study included 366 patients with a diagnosis of arterial hypertension (n=107), coronary heart disease (n= 104), lower extremity arterial disease (n= 100) and ischemic stroke (n= 55). The control group consisted of 150 healthy normotensive and normolipemic volunteers, all non-smokers, without signs of cardiovascular disease.

In all tested patient's lipid parameters in serum: cholesterol and triglycerides were analyzed, using the enzymatic CHOD-PAP method, Roche Diagnostics Germany.

Lipoproteins in serum lipoprotein spectrum by Lipoprint LDL system were analyzed and an atherogenic and a non-atherogenic lipoprotein profile identified.

The Score of the Anti-Atherogenic Risk (SAAR) was calculated as the ratio between non-atherogenic and atherogenic lipoproteins.

Results:

More than 80 percent of tested patients with cardiovascular diseases have an atherogenic lipoprotein profile, with a high level of strongly atherogenic small dense LDL. The atherogenic profile was found in arterial hypertension 78,5%, in coronary heart disease in 81,7%, in lower extremity arterial disease in 80 %, and in patients who survived an ischemic stroke in 85%.

Conclusion:

The atherogenic lipoprotein profile was found to be the overwhelming lipoprotein profile in tested cardiovascular diseases.

A new phenomenon- atherogenic normolipidemia - as a risk factor for the development of cardiovascular disease, would be established as a new term used in the diagnostics of dyslipoproteinemias.

The Significance of Food Salt Content in the Context of Hypertension Prevention

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Background:

Dietary salt is one of the major causes of hypertension. The aim of this study was to identify the amount of dietary salt intake among group of pre-elderly and elderly patients from Eastern Croatia to determine is there a difference between them and to evaluate the significance of food salt content in the context of hypertension prevention.

Methods:

This cross-sectional study included 107 patients aged 61.8 ± 8.3 (range 50-89), 64.5% (69/107) pre-elderly patients (aged 50-64) and 35.5% (38/107) elderly patients (aged 65-89). A specially designed questionnaire was used to collect demographic data and data concerning potential nutritional sources of salt in daily diet among study participants. The values of the salt content in 23 types of bread, 42 bakery products and 31 different salty snacks available in the Croatian market were established. The amount of the overall daily salt consumption for each participant has been calculated.

Results:

The average daily dietary salt intake among all the patients was 9.3 ± 3.7 (range 3.3-24.7) grams. The average daily salt intake among pre-elderly patients was 9.6 ± 3.8 (range 3.3-24.7) and 8.9 ± 3.3 (range 4.0-18.1) grams among elderly patients. In 85.5% (59/69) of pre-elderly patients the recorded intake was more than 6.0 grams of salt per day while 81.6% (31/38) of elderly patients had the same record of salt intake.

Conclusions:

The study showed that both pre-elderly and elderly patients from Eastern Croatia have an identical pattern of salt intake thus preventive actions for both groups should include education about the significance of salt reduction as one of the most cost-effective strategies to combat the epidemic of hypertension and related cardiovascular diseases.

Key words: elderly patients, hypertension, pre-elderly patients, dietary salt, prevention, Croatia

Inhibition of IGF1R Survival Signaling by IGFBP3 Enhanced by ROS-Dependent HIF-1 α Activation Leading to Doxorubicin -Exposed Cardiomyocyte Apoptosis

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Backgrounds:

Doxorubicin(Dox) can cause intracellular ROS generation, inactivate insulin-like growth factor-I (IGF-I) cell survival signaling, leading to cardiomyocyte apoptosis. IGF-binding protein-3 (IGFBP-3) is the most concentrated and high affinity carrier protein for IGF-I in circulation. Recently, IGFBP-3 is reported to mediate ROS-induced cell apoptosis. HIF-1 alpha, a transcription factor, is an upstream protein of IGFBP3, and is regulated by prolyl hydroxylase domain (PHD) through hydroxylation. In this study, we investigated the role of IGFBP-3 in Dox-induced cardiac apoptosis .

Methods and Results:

H9c2 cells were treated with 1 μ M Dox for 24 hr. We found Dox treatment resulted in a dose-dependent increase in ROS generation, intracellular and extracellular (secreted) IGFBP-3 levels, as well as reduced IGF-I signaling activity. The results of co-immunoprecipitation (Co-IP) assay showed that compared with control group, Dox enhanced the extracellular association of IGF-I with IGFBP-3. Interestingly, treatment of IGFBP-3 antibody in medium reversed the decreased IGF-I signaling activity and the apoptosis development in Dox -exposed cells. IGFBP-3 siRNA treatment showed the similar results. Additionally, Dox dose-dependently increased HIF-1 \square protein expression examined by western blot. HIF-1 \square siRNA and HIF-1 \square inhibitor treatments decreased intracellular IGFBP-3, apoptosis level and reverse the reduction of IGF-I signaling activity and apoptosis induced by Dox, Using apocynin, a cytosolic ROS inhibitor, and rotenone, a mitochondria ROS inhibitor, our results showed that increased levels of HIF-1 \square , secreted IGFBP-3 and apoptosis as well as the decreased IGF-I survival signaling and PHD expression by Dox were significantly reversed by these ROS scavengers, and mitochondria is the major ROS source in cells exposed to Dox.

Conclusion:

Our findings suggest that increased IGFBP-3 expression and secretion mediate Dox-induced apoptosis in cardiomyocytes. The increased oxidative stress from Dox stabilized HIF1 alpha protein expression to regulate IGFBP3 expression and extracellular secretion, which further induced cell apoptosis.

Mechanisms of Enhance-Survival and Anti-Apoptotic Effects of Edible Folic Acid and Medicinal Folinic Acid in Late-Stage Triple-Transgenic Alzheimer`s Old Mice Hearts

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To be longevous is global dream to realize. In Taiwan,2014 Ministry of the Interior Department of Statistics shows that the average age of Taiwanese have increased year by year. Recent data have illustrated in vivo accumulation of senescent cells with advancing age. In this study, we use last-stage triple-transgenic(3xTg-AD;PS1M146V, APPSwe, and tauP301L)Alzheimer`s old mice ingestion of folic acid (FA) and folinic acid (FN) protect hearts. Groups of sixteen-month triple-transgenic last-stage Alzheimer`s old mice weighing between 24–65 g were randomly allocated into two treatment groups; one is AD plus FA, and the other is AD plus FN. Mice were gastic fed with FA once daily at 12 mg/kg for one day. FN was gastic fed at 12 mg/kg for one day. Body weight was assessed throughout the trial. Mice were sacrificed using carbon dioxide overdose on sixteen-month. This study suggests that the ingestion of FA and of FN apoptosis proteins reduced, were both observed in FA and FN treatment mice hearts. The results indicated that enhancement of survival and SIRT1 proteins were both observed in FA and FN treatment mice hearts. After we treated FA and FN, that reduced heart apoptosis and fibrosis, and in death receptor-dependent apoptotic pathway and mitochondria-dependent apoptotic pathway have the effect on recovery; in addition survival pathway protein also have a significant increase; at last, in SIRT1 Pathway had been activated. Therefore, that treated FA and FN could protect triple-transgenic Alzheimer`s old mice hearts.