COST-EFFECTIVENESS OF A LIFESTYLE INTERVENTION FOR HYPERTENSION: AN OPEN RANDOMISED CONTROLLED TRIAL

Martikainen J1, Kastarinen M2, Pulsa P3, Nissinen A3
1University of Kuopio, Kuopio, Finland, 2Kuopio University Hospital, Kuopio, Finland, 3National Public Health Institute, Helsinki, Finland

Elevated blood pressure (BP) is a common chronic condition. Hypertension is a significant risk factor for cardiovascular diseases (CVD) and mortality. In addition, its consequences are a significant burden to society due to hospital admissions, use of anti-hypertensive drugs, sickness leaves, and disability pensions.

OBJECTIVES: To estimate the cost-effectiveness of systematic health counselling in the treatment of hypertension in primary health care. METHODS: A cost-effectiveness analysis was performed alongside an open clinical trial, where 698 subjects aged 25–74 years with systolic BP (SBP) 140–179 mmHg and/or diastolic BP (DBP) 90–109 mmHg or antihypertensive drug treatment were randomised to intervention and usual care groups. The intervention was provided by trained public health nurses, who gave lifestyle counselling targeting weight reduction, restriction in salt, alcohol and saturated fat consumption, and increasing leisure time physical activity. Short-term effects in the BP levels were extrapolated to obtain 10-year fatal CVD events by using the SCORE risk function. Incremental cost-effectiveness (ICER) was determined as cost per 1 mmHg reduction in SBP and DBP levels, and cost per life-years saved (LYS). Uncertainty was handled using a parametric Bayesian framework.

RESULTS: The absolute change in the BP levels was significantly greater in the intervention group among patients without antihypertensive drug treatment compared to similar patients in the usual care group (−2.4 mmHg in SBP and −2.0 mmHg in DBP). The difference in the BP reduction in patients with antihypertensive drug treatment was not significant between groups. For the patients not receiving antihypertensive drugs ICERs were €60 per 1 mmHg reduction in SBP and €72 per 1 mmHg reduction in DBP, and €98,000 per LYS. CONCLUSIONS: The lifestyle counselling in the primary care setting is a moderately cost-effective method to treat patients to the treatment goals at least for patients without previous antihypertensive drug treatment.
patients who begin with low and high levels and regardless of final level achieved. METHODS: A cohort of 27,660 patients with coronary artery disease, peripheral vascular disease, or diabetes mellitus were selected and followed retrospectively for their first myocardial infarction or revascularization recorded in the New England Veterans Affairs database. Pre-outcome low-density lipoprotein cholesterol reduction was categorized as follows: <10 mg/dL, reference; 10–39 mg/dL, small reduction; 40–69 mg/dL, moderate reduction; >70 mg/dL, large reduction. Cox proportional hazards was used to determine hazard ratios for each category of lipid reduction compared to reference and stratified by high or low initial LDL-C, adjusting for initial LDL-C, statin use, age, gender, and co morbidities. RESULTS: Among patients with initial LDL-C above the median of 133 mg/dL, hazard ratios (95% confidence intervals) for small, moderate, and large reductions compared to reference were 0.90 (0.85–0.96), 0.84 (0.79–0.90), and 0.76 (0.70–0.83) respectively. A total of 3448 or 24% of such patients achieved a final level <100 mg/dL. Among patients with initial levels below the median, hazard ratios (95% confidence intervals) for small, moderate, and large reductions were 0.90 (0.85–0.96), 0.87 (0.79–0.96), and 0.76 (0.56–1.05) respectively. A total of 5492 or 40% of such patients achieved final level <100 mg/dL. CONCLUSION: These data suggest that magnitude of reduction in low-density lipoprotein cholesterol is proportional to degree of reduction in cardiovascular risk, and that this effect holds both for patients with initially low or high lipid levels, regardless of whether a final LDL-C of <100 mg/dL was achieved.

Abstracts

PCV14
ASCOT-LIKE PATIENT PREVALENCE AMONG THE HYPERTENSIVES IN SPAIN
Sicras A1, F Bobadilla J2, Moreno R2, Aristegui R2, García M3
1Badalona Servicios Asistenciales, Barcelona, Spain, 2Pfizer Spain, Alcobendas, Madrid, Spain, 3Hospital Clinico San Carlos, Madrid, Spain
OBJECTIVES: The lipid-lowering arm of ASCOT demonstrated that in hypertensive patients, in primary prevention who are not conventionally deemed dyslipidaemic and with at least three cardiovascular risk factors (CVRF), atorvastatin ten mg conferred a reduction in CV morbimortality. There are no data regarding the prevalence of these patients among the hypertensives in Spain. The objective is to determine the prevalence of the patient as defined in the ASCOT among the Spanish hypertensives.
METHODS: Data from 2004 to 2005 of 6309 hypertensives from Spanish primary care centres were studied. We analyzed the following variables: left-ventricular hypertrophy, other specified abnormalities on EKG, type 2 diabetes, peripheral arterial disease, previous stroke, gender, age, microalbuminuria, smoking, ratio total cholesterol/HDL-cholesterol, and premature family history of CHD. We analyzed the Number of CVRF as defined in ASCOT and the percentage of patients with CVRF ≥3 (with normal TC and in primary prevention). RESULTS: Of the 6309 patients, 2528 (40%) had history of CHD and/or heart failure and/or TC >250 mg/dL and/or a statin treatment. The presence of ASCOT-CVFR ≥3 was analyzed in the 3781 remaining ones. The percentage of additional CVRF relative to these 3781 patients was: 0 FRCV: 4.3%; 1 FRCV: 24.6%; 2 FRCV: 30.4%; 3 FRCV: 22.2%; 4 FRCV: 11.8%; 5 FRCV: 5.1%; 6 FRCV: 1.3%; 7 FRCV: 0.3%; 8 FRCV: 0.03%. There were 1540 patients (40.7%) with CVRF ≥3. This percentage, in relation to the whole population of hypertensives (6309) was 24.4%. CONCLUSIONS: Because of the retrospective nature of the design, it is advisable to prudent in the external generalization. Nevertheless a high prevalence (at least 40.7%) of the ASCOT-patient (CVRF ≥3), relative to a population of Spanish hypertensive patients in primary prevention, not treated with statins and with total cholesterol ≥250 mg/dL, have been demonstrated.

PCV15
ANALYSIS OF PRESCRIBING PATTERNS OF ANTIHYPERTENSIVE AGENTS (AA) BEFORE AND AFTER PUBLICATION OF THE ANTIHYPER TENSIVE AND LIPID-LOWERING TREATMENT TO PREVENT HEART ATTACK TRIAL (ALLHAT)
Brixner D1, Maio V2
1The University of Utah College of Pharmacy, Salt Lake City, UT, USA, 2Thomas Jefferson University, Philadelphia, PA, USA
OBJECTIVE: The ALLHAT study, published in December of 2002, indicated improved outcomes for hypertensive patients on thiazide diuretics. This study evaluated the utilization of thiazides in hypertensives in the year before and after the publication of these results in a national primary care database.
METHODS: A retrospective review of an electronic medical record (EMR) database (GE Medical Systems Centricity) containing the ambulatory health record data for over 3.2 million individuals was conducted. Patients with an ICD-9 code for hypertension (HPTN) and a GPI code for thiazide diuretic were identified in calendar years 2002 and 2003. Patients in each year on thiazides, on or after HPTN diagnosis, were taken as a percentage of those with hypertension. RESULTS: In the year 2002 there were 81,916 patients with hypertension, 40,392 patients on thiazide diuretics and 17,520 patients with both. Of those, 15,253 had their thiazide prescription on or after the date of HPTN diagnosis. In 2003 there were 114,347 patients with HPTN, 56,796 on thiazides, 26,199 with HPTN and 22,321 with their thiazide prescription on or after HPTN diagnosis. The percent of hypertensives on thiazides was 18.62% in 2002 and 19.52% in 2003 with an increase of 0.9% in thiazide use in patients with hypertension. CONCLUSION: Despite published evidence of improved outcomes for hypertensive patients treated with thiazide diuretics, the increase utilization in a primary care database was modest.

PCV16
MAIN CARDIOVASCULAR RISK FACTORS: ASSOCIATION AND CONTROL IN A PRIMARY HEALTH CARE SETTING
Sicras A1, Navarro R1, Rejas J2, F Bobadilla J3, Garcia M3, Gonzalez P4
1Badalona Servicios Asistenciales, Badalona, Barcelona, Spain, 2Pfizer Spain, Alcobendas, Madrid, Spain, 3Euroclin Institute, Alcobendas, Madrid, Spain
OBJECTIVES: To determine the association and The rapeutic control goals of certain cardiovascular risk factors (CVRF) in a Spanish primary care population. METHODS: A retrospective study was performed based on patient’s data from five ambulatory primary care centres. Patients aged >18 years, attended during year 2004, with at least one major CVRF were included. The following variables were analysed: age, sex, main diagnosis (hypertension, dyslipidemia, diabetes and/or cardiovascular event [CEVI]) and clinical parameters (systolic blood pressure, diastolic blood pressure, LDLc, HbA1c). Therapeutic control goals were established according to NCEP-ATP III. A bivariate analysis and a binary logistic regression model were performed to fit the model. The statistical program SPSS was used with a 5% significance level. RESULTS: A total of 15,470 patients had at least one CVRF. Mean age was 61.3 ± 14.3; 53.7% were female and 46.3% had a history of CVD. The diagnosis was hypertension in 60.6%, diabetes in 26.7% and hypercholesterolemia in 49.5%. The presence of CVRF ≥3 was confirmed in 5.8% and CVD in 28.3%. The percentage of patients who