Secondary prevention in patients after hospitalisation due to coronary artery disease: what has changed since 2006?

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Abstract

Background: The evidence concerning the quality of secondary prevention of coronary artery disease (CAD) in Poland in recent years is scarce.

Aim: To compare the implementation of secondary prevention guidelines into everyday clinical practice between 2006–2007 and 2011–2012 in patients after hospitalisation due to CAD.

Methods: Five hospitals with departments of cardiology serving a city and its surrounding districts in the southern part of Poland participated in the study. Consecutive patients aged ≤ 80 years, hospitalised from April 1, 2005 to July 31, 2006 (first survey) and from April 1, 2010 to June 30, 2011 (second survey) due to acute coronary syndrome or for a myocardial revascularisation procedure were recruited and interviewed 6–18 months after hospitalisation.

Results: Medical records of 640 patients were reviewed and included in the first survey and 466 in the second survey. The proportion of medical records with available information on smoking did not differ between the surveys, whereas the proportion of medical records with available information on blood pressure and total cholesterol was lower in patients hospitalised in 2010–2011. The prescription rate of β-blockers at discharge decreased from 90% to 84% ($p < 0.05$), whereas the prescription rates at discharge of other drug classes did not change significantly. The proportion of patients with high blood pressure (≥ 140/90 mm Hg) one year after hospitalisation decreased in 2011–2012 compared to 2006–2007 (from 48% to 35%, $p < 0.05$), whereas the proportion of subjects with high LDL cholesterol, high fasting glucose, and obesity did not change significantly. We did not note a significant difference in the smoking rate. The proportions of patients taking an antiplatelet agent (90% vs. 91%), a β-blocker (87% vs. 79%), an ACE inhibitor or a sartan (79% vs. 76%), a calcium antagonist (22% vs. 25%), a diuretic (35% vs. 45%), and a lipid-lowering drug (86% vs. 87%) one year after discharge did not change significantly (all $p > 0.05$).

Conclusions: We noted a modest improvement in the implementation of CAD secondary prevention guidelines in everyday clinical practice: blood pressure was better controlled, although the control of all other main risk factors did not change significantly. Our data provides evidence that there is a considerable potential for further reduction of cardiovascular risk in CAD patients.

Key words: coronary artery disease, risk factors, secondary prevention

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INTRODUCTION

Coronary artery disease (CAD) is the most common single cause of death in developed countries [1]. Likewise in Poland, cardiovascular (CV) diseases are the leading cause of mortality and morbidity. According to recent data, the standardised death rate from ischaemic heart disease in people under 65 years of age is 27.1 per 100,000. This ratio is two times higher than in countries which were part of the old EU before enlargement in May 2004 [2]. In recent years, a rapid development of methods of treating CAD has been observed, both in terms of pharmacological as well as invasive methods. Nevertheless, the results of the mortality follow-up of European Action on Secondary Prevention through Intervention to Reduce Events (EUROASPIRE) I and II survey participants indicate that risk factors remain independent predictors of CV mortality in CAD patients [3]. The conclusion from another five year follow-up survey is that the provision of smoking cessation, advice on diet and optimal pharmacological treatment is likely to be crucial for reducing mortality in patients after myocardial infarction (MI) [4]. Thus, the highest priority for preventive cardiology was given to patients with established CAD [5].

The Cracovian Program for Secondary Prevention of Ischaemic Heart Disease was initiated in 1996 [6–8]. The main goal of the programme was to assess and improve the quality of medical care in the field of secondary prevention of CAD. The same centres took part in the EUROASPIRE surveys [9]. These initiatives allowed for the assessment of temporal changes in the implementation of recommendations as well as for international comparisons [9–11]. However, not much is known about changes in the implementation of secondary prevention guidelines in everyday clinical practice in Poland in recent years.

Therefore, the aim of the present study was to compare the implementation of the guidelines concerning secondary prevention into everyday clinical practice between 2005–2006 and 2011–2012, including the control of main risk factors and the cardioprotective medications prescription rates in patients after hospitalisation due to CAD.

METHODS

Studied groups and the methods used in the Cracovian Program for Secondary Prevention of Ischaemic Heart Disease have been described in earlier reports [10–12]. A brief description is given below.

Five hospitals having departments of cardiology in their structure, serving the area of Krakow (a city in the south of Poland) and surrounding districts participated in the study. The total population of this area was 1,200,000 inhabitants. In each department, medical records of consecutive patients hospitalised from April 1, 2005 to July 31, 2006 (first survey) and from April 1, 2010 to June 30, 2011 (second survey) due to acute MI (first or recurrent, no prior percutaneous coronary intervention [PCI] or coronary artery bypass grafting [CABG]), unstable angina (first or recurrent, no prior PCI or CABG), PCI (first, no prior CABG) or scheduled for CABG surgery (first) were reviewed and patients aged ≤ 80 years were identified retrospectively excluding those who died during their in-hospital stay. If a patient was hospitalised more than once during the study period, only the first hospitalisation was regarded as an index event. Medical records of patients fulfilling the inclusion criteria were analysed using the standardised data collection form.

Participants were invited to take part in a follow-up examination 6–18 months after discharge. Data on demographic characteristics, personal history of CAD, smoking status, blood pressure (BP), fasting glucose, plasma lipids, and prescribed medications were obtained using a standardised data collection form. Height and weight were measured in a standing position without shoes and heavy outer garments using standard scales with a vertical ruler. Body mass index (BMI) was calculated according to the following formula: BMI = weight [kg]/(height [m])^2. BP was measured twice, on the right upper arm in a sitting position after at least 5 min of rest. For plasma lipid and glucose measurements, a fasting venous blood sample was taken between 7.30 and 8.30 in the morning. For the present report, results of analyses which were done no later than 4 h after blood collection were used. Low density lipoprotein cholesterol (LDL-C) was calculated according to Friedewald's formula. Diabetes mellitus was defined as fasting glucose level ≥ 7.0 mmol/L or taking antidiabetic treatment.

We also calculated secondary prevention coefficient: for each risk factor (smoking, BP, LDL-C, glucose, BMI) controlled during the follow-up interview, one point was given. Additionally, one point was given for taking an antiplatelet agent, an angiotensin converting enzyme inhibitor (ACEI) or sartan, and a β-blocker in patients with MI in the history. Thus, the secondary prevention coefficient could vary from 1 to 8. The survey protocols were approved by the institutional Bioethics Committee.

Statistical analysis

Categorical variables are reported as percentages and continuous variables as means ± standard deviation. We used general linear model as implemented in the STATISTICA 8.0 software (StatSoft INC., Tulsa, OK, USA) for the assessment of changes in the studied variables over time. The differences are presented with their 95% confidence intervals. The secondary prevention coefficients were compared using Mann-Whitney-U test. A two-tailed p value of less than 0.05 was regarded as indicating statistical significance.

RESULTS

Medical records of 640 patients hospitalised in 2005–2006 and 466 in 2010–2011 were reviewed and included into analyses. Mean age, sex and proportion of men and

Table 1. Mean age, sex distribution, mean duration of education, mean period of time between index hospitalisation and follow-up examination, and index diagnosis distribution by survey

	2005–2006	2010–2011	P
Age [years]	61.1 ± 8.9	65.9 ± 9.9	< 0.05
Sex: men/women	71.1%/28.9%	60.7%/39.3%	< 0.05
Mean duration of education* [years]	11.7 ± 3.5	12.0 ± 3.2	NS
Mean time between index hospitalisation and follow-up examination* [years]	1.11 ± 0.4	1.06 ± 0.2	NS
Index diagnosis:			
Myocardial infarction	24.2%	27.7%	NS
Unstable angina	27.5%	30.5%	NS
Percutaneous coronary intervention	29.2%%	25.1%	NS
Coronary artery bypass graft	19.1%	16.7%	NS

*Among subjects who participated in the follow-up examination

Table 2. Temporal changes in proportions of hospital records with available information on measurement of risk factors during hospitalisation

Survey	Smoking*	BP**	TC	W & H
2005–2006	93.6%	98.9%	89.8%	70.9%
2010–2011	90.3%	97.4%	83.9%	84.6%
2010–2011 vs.	–2.5%	–1.6%	–5.4%	16.2%
2005–2006***	(–5.8% to 0.8%)	(–3.2% to 0.0%)	(–9.5% to –1.3%)	(11.2% to 21.1%)

*Any information on smoking in the medical record; **During first 24-h of hospitalisation; ***Differences adjusted for age, sex, and index diagnosis (95% confidence intervals); BP — blood pressure; TC — total cholesterol; W & H — weight and height

Table 3. Temporal changes in prescription rates of cardioprotective drugs at discharge

Survey	AP	BB	ACEI/S	CA	D	LLD	AD	AN
2005–2006	97.7%	89.7%	88.6%	21.6%	35.8%	95.6%	22.3%	0%
2010–2011	97.0%	84.3%	86.9%	27.5%	42.5%	94.4%	24.5%	0.6%
2010–2011 vs.	–0.3%	–4.2%	–2.0%	1.5%	1.4%	–0.9%	–0.9%	0.8%
2005–2006*	(–2.3% to 1.7%)	(–8.3% to –0.9%)	(–6.1% to 2.0%)	(–2.2% to 8.2%)	(–5.7% to 6.0%)	(–3.6% to 1.8%)	(–6.1% to 4.3%)	(0.2% to 1.4%)

*Differences adjusted for age, sex, and index diagnosis (95% confidence intervals); AP — antiplatelets; BB — beta-blockers; ACEI/S — angiotensin converting enzyme inhibitors/sartans; CA — calcium antagonists; D — diuretics; LLD — lipid lowering drugs; AD — antidiabetic agents; AN — antinicotine medications

women by survey are presented in Table 1. Participants of the second survey were older and more often were women. No significant difference in the index diagnosis distribution between surveys was found.

Proportions of medical records with available information on risk factors are presented in Table 2. The proportion of medical records with available information on lipids and BP measurements decreased, whereas the proportion of medical records with information available on weight and height measurements increased significantly.

Cardioprotective drug prescription rates at discharge are shown in Table 3. Beta-blockers were prescribed less often and antinicotine drugs more often in the second survey. Although we found no significant difference in the prescription rate of ACEI and sartans (when analysed together), we noted a reduction in the use of ACEI (87.8% vs. 75.5%, adjusted $p < 0.0001$), whereas sartans became prescribed more frequently (1.1% vs. 12.0%, adjusted $p < 0.0001$). We found no significant difference in the prescription rate of lipid-lowering drugs (when all classes were analysed together). The prescription rates of statins (94.5% vs. 94.0%, adjusted p = NS) or fibrates (1.7% vs. 1.3%, adjusted p = NS) did not change significantly.

The proportions of patients who did not reach the secondary prevention goals 6–18 months after discharge are presented in Table 4. Among all the studied risk fac-

Table 4. Temporal changes in proportions of patients who do not reach treatment goals 6–18 months after discharge

Survey	Smoking	BP ≥ 140/90 mm Hg	LDL-C ≥ 2.5 mmol/L	LDL-C ≥ 2.0 mmol/L	LDL-C ≥ 1.8 mmol/L	FG ≥ 7.0 mmol/L	BMI ≥ 30 kg/m^2
2006–2007	19.7%	48.2%	39.5%	66.9%	78.4%	13.0%	33.0%
2011–2012	17.0%	35.4%	36.6%	61.9%	70.3%	12.4%	26.8%
2011–2012 vs. 2006–2007*	–3.6% (–9.6% to 2.5%)	–15.4% (–23.6% to –7.3%)	–0.5% (–8.8% to 7.7%)	–2.3% (–10.4% to 5.9%)	–6.1% (–13.4% to 1.2%)	–1.5% (–7.4% to 4.3%)	–5.5% (–13.2% to 2.1%)

*Differences adjusted for age, sex, index diagnosis, duration of education, and the period of time between index hospitalisation and examination (95% confidence intervals); BP — blood pressure; LDL-C — low density lipoprotein cholesterol; FG — fasting glucose; BMI — body mass index

Table 5. Temporal changes in proportion of patients taking cardioprotective drugs 6–18 months after discharge from the hospital

Survey	AP	BB	ACEI/S	CA	D	LLD	AD	AN*
2006–2007	90.0%	87.1%	79.0%	22.1%	34.5%	85.5%	21.8%	0.6%
2011–2012	91.1%	79.2%	76.0%	25.0%	45.3%	86.9%	23.3%	24.6%
2011–2012 vs. 2006–2007**	1.8% (–2.9% to 6.6%)	–5.3% (–11.1% to 0.5%)	–3.2% (–10.1% to 3.6%)	1.0% (–7.8% to 5.7%)	4.8% (–2.9% to 12.4%)	3.3% (–2.3% to 8.9%)	–2.6% (–9.4% to 4.2%)	24.5% (20.5% to 28.6%)

*At any time from discharge to the follow-up interview 6–18 months after discharge; **Differences adjusted for age, sex, index diagnosis, duration of education and the period of time between index hospitalisation and examination (95% confidence intervals); AP — antiplatelets; BB — beta-blockers; ACEI/S — angiotensin converting enzyme inhibitors/sartans; CA — calcium antagonists; D — diuretics; LLD — lipid lowering drugs; AD — antidiabetic agents; AN — antinicotine medications

tors, only the control of BP was significantly improved in 2011–2012 compared to 2006–2007.

The proportion of patients taking antiplatelets, β-blockers, ACEI/sartans, calcium antagonists, diuretics, lipid-lowering drugs and antidiabetic agents did not differ significantly in 2011–2012 compared to 2006–2007 (Table 5). We did not find any significant difference in the proportion of patients taking statins (84.2% vs. 86.4%, adjusted p = NS) nor fibrates (3.7% vs. 2.5%, adjusted p = NS). Although we found no significant difference in the proportion of patients using ACEI or sartans (when analysed together), we noted a reduction in the use of ACEI (75.0% vs. 61.9%, adjusted $p < 0.01$), whereas sartans became used more frequently (5.1% vs. 14.4%, adjusted $p < 0.0001$).

Overall, 53.9% and 35.9% (adjusted $p < 0.001$) of subjects participating in the first and second survey declared they had been advised to participate in a rehabilitation/secondary prevention programme following the index hospitalisation. The proportions of advised patients according to index diagnosis are presented in Figure 1. The proportion of patients who participated in the rehabilitation/secondary prevention programme following the index hospitalisation decreased from 47.1% to 33.3% (adjusted $p < 0.01$). Among advised patients, 86.5% and 91.6% (p = NS) participated in the rehabilitation/secondary prevention programme.

The proportions of smokers who were at any time instructed on methods of smoking cessation are presented in Table 6. Temporal changes in the proportion of patients who were at any time instructed on healthy diets are presented in Table 7.

The mean secondary prevention coefficient in the group studied in 2006–2007 was 5.46 ± 1.27, and in 2011–2012 it was 5.52 ± 1.33. The difference was not significant (adjusted p = 0.77).

DISCUSSION

The evidence concerning the quality of CAD secondary prevention in Poland in recent years is rather scarce. In general, our results showed a modest improvement in the management of patients after hospitalisation due to CAD. The effectiveness of risk factor management improved only in the case of high BP. Proportions of active smokers and those with high LDL-C or high fasting glucose, as well as the proportion of obese patients, remained unchanged. Over 70% of patients had an LDL-C level above the recommended goal in 2011–2012.

Based on the hospital records reviewed, one could assume that only smoking, hypercholesterolaemia, and hypertension were considered as important risk factors by the overwhelming majority of physicians in 2005–2006. The present analysis showed an improvement in the proportion of hospital records with available information on height and weight in 2010–2011 compared to 2005–2006. This phenomenon could be a sign of improved quality of medical care in patients hospitalised due to CAD; but another explanation could be that it is an effect of the formalisation

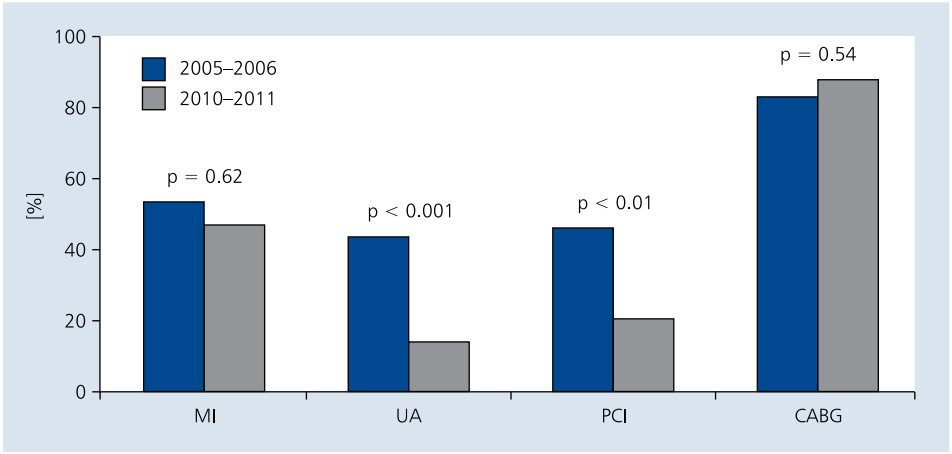

Figure 1. Proportions of patients advised (as declared by the patients) to participate in a rehabilitation/secondary prevention programme following the index hospitalisation according to the index diagnosis. P values are adjusted for age, sex, duration of education and the period of time between index hospitalisation and the follow-up examination; CABG — coronary artery bypass grafting; MI — myocardial infarction; PCI — percutaneous coronary intervention; UA — unstable angina

Table 6. Temporal changes in proportion of smokers (before the index hospitalisation or at the time of the follow-up examination) being ever instructed by a physician on smoking cessation (as declared by the patients)

	2006–2007	2011–2012	2011–2012 vs. 2006–2007*
Oral ad vice	90.1%	77.9%	–11.4% (–21.5% to –12.6%)
Advice using printed materials	16.0%	44.6%	26.3% (13.1% to 39.4%)
Referral to a smoking cessation clinic	2.6%	3.8%	0.8% (–4.7% to 6.4%)
Nicotine replacement therapy	11.5%	7.6%	–3.5% (–13.8% to 6.8%)
Bupropion or warenicline	3.2%	7.4%	4.3% (–2.4% to 10.9%)
Advice on other methods	3.2%	3.9%	0.7% (–5.3% to 6.8%)

*Differences adjusted for age, sex, index diagnosis, duration of education and the period of time between index hospitalisation and examination (95% confidence intervals)

Table 7. Temporal changes in proportion of patients being ever instructed by a physician on healthy diet (as declared by the patients)

	2006–2007	2011–2012	2011–2012 vs. 2006–2007*
Reduction of salt intake	73.8%	85.0%	12.6% (5.8% to 19.4%)
Reduction of fat intake	86.9%	88.0%	2.3% (–3.2% to 7.8%)
Increase in unsaturated fats intake	84.9%	85.8%	2.4% (–3.4% to 8.3%)
Reduction of calories intake	66.9%	77.9%	12.8% (5.4% to 20.2%)
Increase in vegetables and fruits intake	84.6%	85.9%	2.1% (–3.8% to 8.0%)
Increase in fish intake	81.1%	78.2%	0.1% (–6.4% to 6.5%)
Increase in oily fish intake	53.7%	75.6%	24.1% (16.4% to 31.8%)
Reduction of sugar intake	71.9%	78.6%	5.7% (–13.7% to 12.8%)
Reduction of alcohol intake	50.4%	77.6%	28.7% (20.9% to 36.5%)

*Differences adjusted for age, sex, index diagnosis, duration of education and the period of time between index hospitalization and examination (95% confidence intervals)

of hospital care which is ongoing in some Polish hospitals. Indeed, some hospitals participating in the present study had started a programme of accreditation and quality assurance. Nevertheless, our present results suggest that nowadays most physicians note information about all main risk factors in the medical records.

We found no major change in the proportion of smoking subjects in the post-discharge period. It seems that the prevalence of smoking in patients after hospitalisation due to CAD has not changed for over 15 years [11]. Interestingly, significantly more patients declared they had tried anti-tobacco medications in 2011–2012 than in 2006–2007. These findings could be explained by the less often oral advice provided by the physicians to smokers, and no increase in the proportion of patients ever advised on anti-tobacco medications use. Probably, patients encouraged by advertising have tried over-the-counter anti-tobacco drugs more often. Indeed, it is well known that anti-tobacco medications (especially nicotine replacement therapy) are much less effective if their use is not supported by physicians [13]. Education on how to use these drugs is particularly important. Our present results can be seen as another proof of the need for high-quality education provided by health professionals.

In a previous report, we showed a significant improvement in hypercholesterolaemia management between 1997–1998 and 2006–2007 [11], but we found no significant difference between 2006–2007 and 2011–2012 in the present analysis. It was shown that the most important factor influencing the control of hypercholesterolaemia in the post-discharge period is the in-hospital quality of hypercholesterolaemia management [14]. Indeed, we showed a gradual improvement in in-hospital hypercholesterolaemia management from 1996–1997 to 2005–2006 [10], but we did not find any significant difference in the proportion of medical records with available information on lipid measurements or any difference in the prescription rate at discharge of statins in the present study.

We found control of hypercholesterolaemia much better when compared to high risk subgroup of the 3ST-POL study population [15]. However, important differences between the studies should be underlined. Śliż et al. [15] analysed ambulatory patients whereas we recruited subjects hospitalised due to CAD. Moreover, Śliż et al. [15] defined high risk patients as those who have CAD, diabetes or SCORE ≥ 5, whereas we analysed only coronary patients.

We noted virtually no change in the control of BP between 1997–1998 and 2006–2007 [11]. Interestingly, during subsequent years, the effectiveness of BP management has improved. Concerning the improvement in BP control, we can only speculate that the doses of antihypertensive drugs prescribed to CAD patients might have been increased in recent years. The improvement in the control of BP in coronary patients has been accompanied by an improvement in BP control in the general Polish population as was shown in the recent NATPOL 2011 survey [16].

Although an insufficient proportion of patients (with the exception of patients after CABG) participated in a rehabilitation programme in 2006–2007, we found even lower proportions, especially among patients after PCI. In this regard, it should be underlined that all patients after CABG, PCI or acute coronary syndrome (ACS) should participate in a rehabilitation or secondary prevention programme [5].

Unfortunately, no study outside Krakow has been designed specifically to assess secondary prevention of ischaemic heart disease in Polish hospitals and published in recent years. Data from several registries of patients hospitalised due to ACS has been published recently [17, 18]. In a nation-wide registry of ACS hospitalisations, it was estimated that the average prescription rate at discharge for aspirin is below 90%, for lipid-lowering drugs also < 90%, whereas β-blockers and ACEI it is below 80% [17]. In 3,564 patients hospitalised due to MI with ST-elevation in the Wielkopolska region, the prescription rates were 96% for antiplatelet agents, 74% for β-blockers, 58% for ACEI, and 90% for statins [18]. It should be underlined that the prescription rates of cardiopreventive medications in Poland are not lower compared to prescription rates in an average centre participating in the EUROASPIRE III survey [9], and are much higher compared to centres from high-income countries participating in the PURE study [19]. For example, the prescription rates of antiplatelets in British and German centres participating in the EUROASPIRE III survey were 94% and 91%, whereas the prescription rates of lipid-lowering drugs were 89% and 86%, respectively [9].

Taking all the above into account, it should be underlined that the control of all main risk factors was insufficient. In this regard, it is interesting to note the low proportion of CAD patients after hospitalisation due to CAD who had been advised to participate in a secondary prevention programme/cardiac rehabilitation. It has been shown that such programmes improve prognosis [20, 21]. Indeed, it seems that a higher participation rate in secondary prevention programmes/cardiac rehabilitation could result in better control of risk factors in this population. It should be also underlined that improved cooperation between hospital and outpatient clinic staff, as well as better access to a cardiologist in case of any suspicion of heart-related problems, could further improve the patients' prognosis. Recently, experts from the Polish Cardiac Society described the 'Optimal Model of Comprehensive Rehabilitation and Secondary Prevention', wide implementation of which in Poland could be related to a decrease in deaths by 3,389, in MIs by 3,872, in myocardial revascularisation procedures by 13,499, and in cardiac hospitalisations by 23,182 annually [22].

Limitations of the study

The present study has some limitations. Firstly, it is possible that some unrecognised differences in the subgroups served by particular hospitals or across diagnostic groups exist. These differences could influence the approach to secondary prevention. Secondly, we were not able to assess the impact of changes in the implementation of secondary prevention on the risk of CV complications. Thirdly, our study participants

were not representative for all CAD patients. Participants were limited to those who had undergone an acute CAD event or revascularisation procedure. Therefore, our results should not be directly applied to other subjects. Finally, we did not analyse doses of cardioprotective drugs taken by patients. It is possible that BP, cholesterolaemia, and glycaemia were not controlled in some cases due to too small doses of prescribed drugs. We had no data on patient compliance. It is reasonable to suspect that some patients declared they took medications, but they might in reality take them irregularly.

CONCLUSIONS

We noted a modest improvement in the implementation of CAD secondary prevention guidelines in everyday clinical practice: BP was better controlled, although the control of all other main risk factors did not change significantly. Our data provides evidence that there is a considerable potential for a further reduction of CV risk in CAD patients.

Conflict of interest: *none declared*

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Wtórna prewencja u pacjentów po hospitalizacji z powodu choroby niedokrwiennej serca: co się zmieniło od 2006 roku?

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Streszczenie

Wstęp: Zgodnie z aktualnymi wytycznymi Europejskiego Towarzystwa Kardiologicznego za najważniejszą grupę docelową działań profilaktycznych uważa się osoby z chorobami układu sercowo-naczyniowego na podłożu miażdżycowym. Wyniki kilku opublikowanych badań wykazały, że realizacja wtórnej prewencji choroby niedokrwiennej serca (CAD) w codziennej praktyce lekarskiej jest niewystarczająca. Jednak aktualna sytuacja w Polsce w tym zakresie nie jest znana.

Cel: Celem pracy było porównanie realizacji wtórnej prewencji CAD po wypisaniu ze szpitala w latach 2006–2007 i 2011–2012.

Metody: W badaniu uczestniczyło 5 krakowskich szpitali, w których strukturze znajduje się co najmniej jeden oddział kardiologii. Do badania kwalifikowano kolejnych pacjentów w wieku ≤ 80 lat, zamieszkałych na terenie byłego województwa krakowskiego, hospitalizowanych od 1.04.2005 do 31.07.2006 (pierwsze badanie) oraz od 1.04.2010 do 30.06.2011 (drugie badanie) z powodu ostrego zespołu wieńcowego, w celu wykonania angioplastyki wieńcowej lub zakwalifikowanych do operacji pomostowania aortalno-wieńcowego. Na podstawie standaryzowanego kwestionariusza dokonano systematycznego przeglądu dokumentacji szpitalnej pacjentów zakwalifikowanych do badania. Nasilenie czynników ryzyka i stosowane leki oceniono 6–18 miesięcy po hospitalizacji.

Wyniki: Do analizy włączono dane 640 pacjentów hospitalizowanych w latach 2005–2006 oraz 466 osób w latach 2010–2011. Pacjenci leczeni w latach 2010–2011 byli starsi (66 ± 10 *vs*. 61 ± 9 lat). Odsetek historii chorób pacjentów zawierających informację o paleniu tytoniu (94% *vs*. 90%, p = NS) nie zmienił się istotnie, natomiast odsetek historii chorób zawierających informację o wartościach ciśnienia tętniczego (99% *vs*. 97%, p < 0,05) i stężenia cholesterolu całkowitego (90% *vs*. 84%, p < 0,05) był niższy w grupie hospitalizowanej w latach 2010–2011. Częstość zalecania β-adrenolityków przy wypisie ze szpitala zmniejszyła się (90% *vs*. 84%, p < 0,05), natomiast częstość zalecania przy wypisie leków przeciwpłytkowych (98% *vs*. 97%, p = NS), inhibitorów enzymu konwertującego angiotensynę (ACEI) lub sartanów (89% *vs*. 87%, p = NS), antagonistów wapnia (22% *vs*. 28%, p = NS), diuretyków (36% *vs*. 43%, p = NS) oraz leków hipolipemizujących (96% *vs*. 94%, p = NS) nie zmieniła się istotnie. Odsetek osób z podwyższonym ciśnieniem tętniczym (≥ 140/90 mm Hg) 6–18 miesięcy po hospitalizacji zmniejszył się w latach 2011–2012 w porównaniu z latami 2006–2007 (35% *vs*. 48%, p > 0,05). Natomiast częstość palenia tytoniu (20% w latach 2006–2007 *vs*. 17% w latach 2011–2012, p = NS), podwyższonego stężenia cholesterolu frakcji LDL (67% *vs*. 62%, p = NS), hiperglikemii (13% *vs*. 12%, p = NS) oraz otyłości (33% *vs*. 28%, p = NS) nie uległa zmianie. Po 6–18 miesiącach po hospitalizacji nie stwierdzono istotnej zmiany pod względem częstości stosowania leków przeciwpłytkowych (90% *vs*. 91%, p = NS), β-adrenolityków (87% *vs*. 79%, p = NS), ACEI lub sartanów (79% *vs*. 76%, p = NS), antagonistów wapnia (22% *vs*. 25%, p = NS), diuretyków (35% *vs*. 45%, p = NS) oraz leków hipolipemizujących (86% *vs*. 87%, p = NS).

Wnioski: Wyniki badania wskazują na poprawę kontroli ciśnienia tętniczego. Jednak częstość kontroli pozostałych głównych czynników ryzyka i częstość stosowania leków poprawiających rokowanie u osób z CAD nie uległa zmianie. Wyniki badania wskazują na możliwość poprawy rokowania pacjentów po hospitalizacji z powodu CAD poprzez polepszenie realizacji zasad wtórnej prewencji w codziennej praktyce lekarskiej.

Słowa kluczowe: choroba niedokrwienna serca, czynniki ryzyka, wtórna prewencja

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