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Gender-related differences in clinical course, therapeutic approach and prognosis in patients with non-ST segment elevation myocardial infarction

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Abstract

Background: There is accumulated evidence that clinical course and prognosis after myocardial infarction (MI) may differ between genders.

Aim: To compare epidemiology, the clinical course, therapeutic approach and prognosis in men and women with non-ST segment elevation MI (NSTEMI).

Methods: We analysed a total of 1219 consecutive patients with NSTEMI (43% women) treated between June 01, 2005 and May 31, 2006 in a hospital covering in a district with 1,300,000 inhabitants. The data were obtained from the Polish Registry of Acute Coronary Syndromes (PL-ACS).

Results: Women in the study group were on average 6 years older than men (72.6 ± 10.3 *vs* 66.7 ± 11.4 years; $p < 0.0001$). The incidence of arterial hypertension (83.4% *vs* 73.45%; $p < 0.0001$), diabetes mellitus (30.2% *vs* 20.1%; $p < 0.0001$) and obesity (17.9% *vs* 13.1%; $p < 0.020$) was higher in women, while cigarette smoking was more common in men (7.4% *vs* 32.9%; $p < 0.0001$). Clinical presentation was similar in both genders. Coronary angiography was performed in 360 patients, more frequently in men (32.8% *vs* 25.2%; $p < 0.05$). Less women than men underwent percutaneous coronary angioplasty (18.9% *vs* 12.6%; $p < 0.0033$). In-hospital, 30-day and 6-month mortality was similar in both genders (5.3% *vs* 4.9%; 6.9% *vs* 7.3%; and 13.2% *vs* 13.1%, respectively). In a multivariate analysis, female gender did not influence the prognosis.

Conclusions: Although women with NSTEMI had worse baseline characteristic and less frequently underwent revascularisation, their outcomes were comparable with those in men.

Key words: women, non-ST segment elevation myocardial infarction, prognosis

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INTRODUCTION

Numerous studies published in the 1990s suggested significant differences in clinical course, treatment, and prognosis in women and men hospitalised due to non-ST segment elevation myocardial infarction (NSTEMI) [1–10]. It has been emphasised that women more often present with atypical symptoms, show less specific electrocardiographic (ECG) changes, and have more risk factors. Compared to men, modern therapeutic strategies were less frequently used in women, and benefits from aggressive antiplatelet therapy and coronary revascularisation were not clearly established. Worse prognosis in women with NSTEMI was often attributed to differences in risk profile and insufficient use of guideline-based therapy. It was also noted that women were underrepresented in most clinical trials of modern therapeutic methods [2].

While currently available evidence show unquestionable benefits from immediate invasive therapy in patients with ST segment elevation MI (STEMI), NSTEMI patients are referred for coronary angiography based on risk stratification [11]. The ICTUS study results published in 2005 [12] and supported by data from 3-year follow-up [13], showing no differences in the rates of major combined endpoints, question the need for routine invasive treatment. Numerous studies [14–16] and metaanalyses [17, 18] showed benefits from early invasive strategy with reduction in mortality and recurrent MI, particularly in patients with elevated cardiac troponin level. Of note, patients assigned to conservative treatment in randomised studies often crossed to invasive treatment, which resulted in a significant improvement of long-term prognosis, as higher rate of revascularisation is generally associated with lower mortality [19]. The effects of invasive treatment on prognosis was also evaluated in women. Initially, mortality reduction in acute coronary syndromes (ACS) attributed to the use of novel treatment strategies was seen only in men [20]. Currently, it is known that women with NSTEMI are less often treated with well-documented methods such as antiplatelet therapy or coronary angioplasty [2]. Despite this, female gender is not considered a negative prognostic factor in regard to mortality [11]. With this background, we set out to compare the clinical characteristics, hospital treatment, and prognosis in women and men hospitalised due to NSTEMI.

METHODS

Study group

We analysed 1219 patients hospitalised due to NSTEMI during one year period (from June 1, 2005 to May 31, 2006) in the Swietokrzyskie region in Poland. We included patients with cardiac troponin level above the threshold for the diagnosis of MI who were diagnosed with NSTEMI based on the current European Society of Cardiology guidelines [11]. We evaluated the clinical characteristics, baseline risk using the TIMI Risk Score [21], hospital course, treatment, and in-hospital, 30-day and 6-month mortality in relationship to baseline risk and the treatment strategy used. Data for the in-hospital period were obtained from the Polish Registry of Acute Coronary Syndromes (PL-ACS). Data from further follow-up were obtained from the regional bureau of the National Health Fund, and mortality data were obtained from the regional office of births, marriages and deaths.

Statistical analysis

Continuous variables are presented, depending on the distribution, as mean values ± SD or median values and interquartile range. Significance of the differences between the mean values in the study groups was evaluated using the Student t test or the Mann-Whitney U test, respectively. For non-normally distributed variables, Kruskal-Wallis ANOVA or the Mann-Whitney U test was used, depending on the homogeneity of variance. The latter was assessed using the F-test. Categorical variables were tested using the χ^2 test. Six-month mortality was evaluated using the Kaplan-Meier method, with the log-rank test used to assess significance of the differences between the study groups. In-hospital and 6-month mortality was analysed using multivariate logistic regression, and the results are presented as odd ratios for in-hospital mortality and relative risk values for 6-month mortality, with corresponding 95% confidence intervals. A two-sided p value ≤ 0.05 was considered statistically significant.

RESULTS

The study group included 524 (43%) women and 695 (57%) men. The mean age was 69.3 ± 11.3 years. On average, women were older than men by approximately 6 years. Hypertension, diabetes, and obesity were more common in women, and smoking more common in men. Men were more frequently subjected to prior percutaneous or surgical revascularisation (Table 1). Despite more adverse risk factor profile, clinical presentation in women was similar to that in men, except for left ventricular ejection fraction (LVEF) that was more frequently reduced below 30% in men (Table 2). Time from the onset of symptoms to hospital presentation was similar in both genders. The ECG showed no significant differences in the rates of ST segment depression, inverted T waves, and bundle branch blocks.

During in-hospital period, women were more frequently treated with beta-blockers, diuretics, insulin, and oral hypoglycaemic agents (Table 3), and these differences persisted at hospital discharge (Table 4).

Coronary angiography was performed acutely in only 360 patients, significantly less frequently among women (25.2% *vs* 32.8%; $p < 0.05$). Women were more frequently found to have no significant coronary artery disease (CAD), but the rates of single-vessel, two-vessel, and three-vessel disease were similar in both genders (Table 2). Invasive treat-

Table 1. Baseline characteristics

	Women (n = 524)	Men (n = 695)	P
Age [years]	72.6 ± 10.3	66.7 ± 11.4	< 0.0001
Patients ≥ 65 years of age	417 (79.6%)	415 (59.7%)	< 0.0001
Hypertension	437 (83.4%)	510 (73.4%)	< 0.0001
Diabetes	158 (30.2%)	140 (20.1%)	< 0.0001
Hypercholesterolaemia	279 (53.2%)	399 (57.4%)	0.15
Smoking	39 (7.4%)	229 (32.9%)	< 0.0001
Obesity (BMI >30 kg/m^2)	94 (17.9%)	91 (13.1%)	0.020
Previous MI	152 (29%)	235 (33.8%)	0.074
Previous PCI	6 (1.1%)	20 (2.9%)	0.038
Previous CABG	21 (4%)	51 (7.3%)	0.015

BMI — body mass index; CABG — coronary artery bypass grafting; MI — myocardial infarction; PCI — percutaneous coronary intervention

Table 2. Clinical presentation

	Variable	Women (n = 524)	Men (n = 695)	P
Rhythm in ECG	Sinus	442 (88%)	581 (88%)	1.0
	AF	41 (8.2%)	51 (7.7%)	0.78
	Paced	6 (1.2%)	9 (1.4%)	0.80
	Rate [bpm]	86 ± 25	84 ± 24	0.19
ST-T changes in ECG	ST segment depression	242 (46.2%)	305 (43.9%)	0.42
	Negative T waves	141 (26.9%)	166 (23.9%)	0.23
Duration of pain to admission	0–6 h	252 (50.2%)	369 (55.9%)	0.053
	6–12 h	85 (16.9%)	85 (12.9%)	0.053
	> 12 h	165 (32.9%)	206 (31.2%)	0.55
Killip class	4 (cardiogenic shock)	17 (3.2%)	26 (3.7%)	0.64
	3 (pulmonary oedema)	35 (6.7%)	37 (5.3%)	0.32
	1–2	472 (90.1%)	632 (90.9%)	0.61
Left ventricular ejection fraction	> 50%	217 (63.5%)	309 (58.6%)	0.16
	30–50%	116 (33.9%)	187 (35.5%)	0.64
	< 30%	9 (2.6%)	31 (5.9%)	0.025
CK-MB		29 (18–54)	35 (20–60)	0.03
Number of diseased coronary arteries	0	25 (18.9%)	25 (11%)	0.035
	1	34 (25.8%)	73 (32%)	0.21
	2	35 (26.5%)	61 (26.8%)	0.96
	≥ 3	38 (28.8%)	69 (30.3%)	0.77
Duration of hospitalisation (days; mean and range)		10 (7–13)	9 (6–13)	0.093

AF — atrial fibrillation; CK-MB — creatinine kinase MB isoenzyme (IU/L; median and interquartile range); ECG — electrocardiogram; bpm — beats per minute

ment was performed in 290 (23.8%) patients, with a significantly lower proportion of women treated with percutaneous coronary intervention (PCI) (Table 5).

In-hospital, 30-day, and 6-month mortality was similar in women and men. We also did not find any significant differences in the rates of recurrent ACS or rehospitalisation due to recurrent angina (Table 6).

In multivariate analysis, female gender was not a significant predictor of in-hospital and 6-month mortality (Table 7). The only significant predictor of 6-month mortality in women was the haemodynamic status as assessed using the Killip classification, with higher class conferring higher mortality (Table 8). Differences in mortality in different baseline risk categories as assessed using the TIMI Risk Score were insigni-

Table 3. In-hospital drug therapy

Medication	Women (n = 524)	Men (n = 695)	P
Aspirin	498 (95%)	657 (94.5%)	0.70
Ticlopidine	155 (29.6%)	229 (32.9%)	0.21
Clopidogrel	125 (23.9%)	197 (28.3%)	0.078
GP IIb/IIIa inhibitor	3 (4.3%)	12 (9.0%)	0.23
UFH	103 (19.7%)	156 (22.4%)	0.24
LMWH	336 (64.1%)	453 (65.2%)	0.70
Beta-blocker	439 (83.8%)	536 (77.1%)	0.004
Statin	391 (74.6%)	523 (75.3%)	0.80
ACEI	430 (82.1%)	556 (80%)	0.36
Nitrate	364 (69.5%)	456 (65.6%)	0.16
Diuretic	249 (47.5%)	280 (40.3%)	0.012
Insulin	107 (20.4%)	84 (12.1%)	< 0.0001
Oral hypoglycaemic agent	58 (11.1%)	54 (7.8%)	0.049

ACEI — angiotensin-converting enzyme inhibitor; GP — glycoprotein; LMWH — low molecular weight heparin; UFH — unfractionated heparin

Table 4. Drug therapy at hospital discharge

Medication	Women (n = 496)	Men (n = 661)	P
Aspirin	418 (84.3%)	573 (86.7%)	0.25
Ticlopidine	101 (20.4%)	153 (23.1%)	0.26
Clopidogrel	66 (13.3%)	124 (18.8%)	0.013
LMWH	48 (9.7%)	70 (10.6%)	0.61
Beta-blocker	389 (78.4%)	504 (76.2%)	0.38
Statin	369 (74.4%)	525 (79.4%)	0.043
ACEI	383 (77.2%)	510 (77.2%)	0.98
Nitrate	292 (58.9%)	347 (52.5%)	0.031
Diuretic	240 (48.4%)	241 (36.5%)	< 0.0001
Insulin	72 (14.5%)	52 (7.9%)	0.0003
Oral hypoglycaemic agent	60 (12.1%)	54 (8.2%)	0.027

Abbreviations as in Table 3

ficant for both in-hospital mortality in women (TIMI Risk Score 0–2: 6.8%; 3–4: 5.5%; 5–7: 4.3%) and men (TIMI Risk Score 0–2: 5.6%; 3–4: 5.5%; 5–7: 3.7%) and 6-month mortality in women (TIMI Risk Score 0–2: 13.7%; 3–4: 13.1%; 5–7: 13%) and men (TIMI Risk Score 0–2: 12.9%; 3–4: 14.1%; 5–7: 11.8%).

In patients subgroups treated conservatively or invasively, in-hospital and 6-month mortality did not differ significantly between women and men. In women, conservative treatment was associated with higher 6-month mortality than invasive treatment (14.6% *vs* 7.1%; p = 0.046), while mortality in men was higher among conservatively treated patients both in hospital (1% *vs* 6.3%; p = 0.0038) and at 6 months (6.3% *vs* 15.7%; p < 0.0011). The rate of the combined endpoint (including deaths, ACS, and hospitalisations at 6 months) was significantly higher among conservatively treated women (40.2% *vs* 27.3%; p = 0.017).

DISCUSSION

Women comprise 27–44% of NSTEMI patients in various national registries [1–10]. In our study population, proportion of women was slightly higher than reported for the whole Poland (40.9%) [22]. The difference in age between women and men was slightly lower than in other studies (7–8 years) [1, 23–27], which resulted from more advanced age of men in our study. Women with NSTEMI have more hypertension [6, 10] and diabetes [4, 5], while the proportion of smokers is higher in men [8]. Our findings in this regard are consistent with other studies. Hyperlipidaemia was also reported to be more common in women with NSTEMI but this was not seen

Table 5. Treatment strategy and complications

Variable	Women (n = 524)	Men (n = 695)	P
Conservative strategy	425 (81.1%)	504 (72.5%)	0.0005
Invasive strategy:	99 (18.9%)	191 (27.5%)	0.0005
PCI	66 (12.6%)	131 (18.9%)	0.0033
CABG	32 (6.1%)	58 (8.3%)	0.14
PCI+CABG	1 (0.2%)	2 (0.3%)	0.81
GP IIb/IIIa inhibitor:			
Before coronary angiography	0 (0%)	1 (0.7%)	1.0
Before PCI	2 (2.9%)	7 (5.2%)	0.72
During PCI	1 (1.4%)	4 (3%)	0.66
Not administered	67 (95.7%)	122 (91%)	0.23
Complications:			
STEMI	4 (0.8%)	4 (0.6%)	0.97
NSTEMI/UA	55 (10.5%)	50 (7.2%)	0.042
Stroke	0 (0%)	1 (0.1%)	0.89
Bleeding	0 (0%)	2 (0.3%)	0.61
Cardiac death	27 (5.2%)	32 (4.6%)	0.66
Other death	1 (0.2%)	2 (0.3%)	0.81

CABG — coronary artery bypass grafting; GP — glycoprotein; NSTEMI — non-ST segment elevation myocardial infarction; PCI — percutaneous coronary intervention; STEMI — ST segment elevation myocardial infarction; UA — unstable angina

Table 6. Mortality among women and men

	Women	Men	P
In-hospital death	28 (5.3%)	34 (4.9%)	0.72
Death at 30 days	36 (6.9%)	51 (7.3%)	0.75
Death at 6 months	69 (13.2%)	91 (13.1%)	0.97
Recurrent ACS at 6 months	45 (8.6%)	72 (10.4%)	0.30
Rehospitalisation at 6 months	124 (23.7%)	156 (22.4%)	0.62

ACS — acute coronary syndrome

Table 7. Multivariate analysis of in-hospital and 6-month mortality in the overall study group

	In-hospital mortality		6-month mortality	
	OR (95% CI)	P	RR (95% CI)	P
Age (per 10 years increase)	1.51 (1.09–2.1)	0.013	1.43 (1.21–1.69)	< 0.0001
Female gender	0.83 (0.42–1.65)	0.60	0.72 (0.51–1.01)	0.055
Hypertension	0.93 (0.44–1.99)	0.85	0.77 (0.54–1.11)	0.16
Diabetes	1.2 (0.61–2.38)	0.59	1.39 (0.98–1.97)	0.061
Smoking	1.15 (0.45–2.96)	0.77	0.94 (0.58–1.53)	0.82
Obesity	1.65 (0.73–3.77)	0.23	0.98 (0.63–1.53)	0.94
Prior MI	0.53 (0.26–1.1)	0.088	0.79 (0.55–1.12)	0.18
ST-T changes in ECG	0.85 (0.25–2.83)	0.79	0.94 (0.5–1.75)	0.83
Killip class* (per increase by one class)	5.52 (3.99–7.62)	< 0.0001	2.63 (2.25–3.07)	< 0.0001
Invasive treatment	0.94 (0.36–2.5)	0.91	0.72 (0.44–1.18)	0.19

*On admission; CI — confidence interval; ECG — electrocardiogram; MI — myocardial infarction; OR — odds ratio; RR — relative risk

Table 8. Multivariate analysis of in-hospital and 6-month mortality in women

	In-hospital mortality		6-month mortality	
	OR (95% CI)	P	RR (95% CI)	P
Age (per 10 years increase)	1.76 (1.04–2.99)	0.035	1.31 (0.99–1.74)	0.058
Hypertension	0.80 (0.25–2.51)	0.70	0.48 (0.27–0.86)	0.013
Diabetes	1.11 (0.42–2.91)	0.83	1.37 (0.81–2.3)	0.24
Smoking	1.84 (0.20–17.16)	0.59	1.20 (0.35–4.11)	0.77
Obesity	2.09 (0.68–6.47)	0.20	1.46 (0.79–2.7)	0.23
Prior MI	0.62 (0.23–1.69)	0.35	0.88 (0.52–1.5)	0.64
ST-T changes in ECG	2.05 (0.21–20.43)	0.54	2.29 (0.56–9.44)	0.25
Killip class* (per increase by one class)	4.32 (2.71–6.89)	< 0.0001	2.47 (1.93–3.16)	< 0.0001
Invasive treatment	1.61 (0.47–5.55)	0.45	0.70 (0.31–1.56)	0.38

*On admission; rest abbreviations as in Table 7

in our study. Despite small differences, overall risk profile in women and men was similar to that in Western populations [2, 3, 6–10].

It is thought that less typical presentations of NSTEMI, with more women presenting with acute heart failure (HF) [2–4, 6, 7], may contribute to inappropriate interpretation of ECG changes as strain pattern. In our study population, symptoms of HF were present in similar proportions of women and men. We also did not observe differences in the rate of typical ischaemic ECG changes between genders. Another factor contributing to worse outcomes is delay from the symptom onset to hospital presentation. In our study, more than half of all patients were hospitalised during the first 6 h from the symptom onset, with no significant differences between women and men.

In our study population, similarly to the German ACOS registry [3], men prevailed among patients with significantly reduced LVEF (< 30%). However, cardiogenic shock or pulmonary oedema is reported more frequently in women [2, 3, 6]. These complications are likely related to diastolic HF which women are thought to be more predisposed to, particularly if diastolic HF develops in a patient with hypertension [28], and the latter was more common among women in our study group.

Our analysis of in-hospital drug therapy showed that most drug classes were used with similar frequency in both genders, except for beta-blockers, diuretics, insulin, and oral hypoglycaemic agents which were used more frequently in women. No substantial differences in drug therapy between women and men were also reported in the Israeli ACSIS registry [4]. However, the latter included only patients treated in cardiology units, while our study included patients treated in both cardiology and general internal medicine wards. Other registries [2, 3, 7] showed that key drugs used in the treatment of ACS were used more frequently in men. These differences between the literature data and our finding may reflect different periods of data collection. The ACOS [3] and CRUSADE [2] studies reported data from 2000–2002, the ACSIS registry [4] analysed data from 2004, and in our study we analysed data from 2005–2006. These findings may suggest that paying more attention to gender inequalities in the treatment of ACS may have resulted in an improved treatment quality in women.

Platelet glycoprotein (GP) IIb/IIIa inhibitors were infrequently used in our population, but the rate of their use was nearly twice higher in men, albeit without statistical significance. Of note, overall use of GP IIb/IIIa inhibitors in NSTEMI in Poland was low (in about 3.1% of patients) [22] compared to other countries where it is reported at 12% to nearly 40% [2–4, 7]. This low use is most likely related to limited reimbursement of these medications by our national healthcare payer during the study period [22].

Despite similar clinical presentation, women in our study were less frequently referred for invasive testing and coronary revascularisation, similarly to other registries [2, 3, 5, 7]. This is related to potentially higher periprocedural risk resulting from more advances age and concomitant conditions. Although the overall burden of risk factors for atherosclerosis was higher in women, they were more likely to have no significant CAD, and the rate of two- and three-vessel disease was very similar in both genders. Similar findings were reported in other studies [20, 29]. These data seem to support the theory of differences in the clinical course of coronary atherosclerosis in women, and contribute to increased clinician hesitation when considering referral of female patients for coronary angiography. Small proportion of patients undergoing invasive treatment in the acute period of the disease is related to the fact that during the study period, our region was initially served by only one cardiac catheterisation laboratory, with 1613 coronary angiographies per one million inhabitants performed in 2005 and 3342 coronary angiographies per one million inhabitants in 2006 (corresponding national rates in these years were 3398 and 3682, respectively). Smaller rate of

coronary revascularisation in women was a consequence of both smaller number of referrals and higher proportion of women with no significant CAD. Cardiac surgical revascularisation was performed at a similar rate in both genders. Thus, it seems that although the gender may affect referrals for invasive testing, subsequent decisions regarding invasive treatment depend solely on clinical indications [30].

Increased risk of bleeding in women, particularly with GP IIb/IIIa inhibitor treatment, was reported in the literature [2, 6, 31]. Female gender is considered an independent risk factor of bleeding in NSTEMI [32]. Such excess bleeding risk was not observed in our study group, probably due to a generally low rate of major bleedings.

Drug therapy at hospital discharge differed significantly between genders. More frequent use of clopidogrel in men was likely related to a higher proportion of men treatment with PCI. However, it is difficult to explain lower statin use among women.

In our study, despite more frequent complications and a lower rate of revascularisation among women, we found no significant differences between genders in regard to in-hospital, 30--day and 6-month mortality, and the rate of recurrent ACS. Similar findings of other observational studies prompted some authors [33] to speculate that with lower rate of significant CAD and higher periprocedural risk, some wariness when considering referral of women for coronary angiography is justified.

Worse prognosis following ACS in women [1, 10, 29, 34, 35] has been attributed to differences in risk factor profile and coronary anatomy, or less aggressive treatment in women. When age and concomitant disease are accounted for, differences in mortality disappear [3, 10]. Some authors [1, 36] suggest that the reported higher in-hospital mortality among women may be a result of another rarely analysed factor, i.e. higher pre-hospital mortality in men. Of note, high 6-month mortality seems worrisome. It has been increasingly emphasised that long-term outcomes of NSTEMI are similarly poor to those of STEMI [11, 27, 37].

Limitations of the study

Our analysis was based on data from 2005–2006. In the study group, invasive strategy was used in relatively small subsets of both women (25%) and men (33%), and many patients were not receiving long-term dual antiplatelet therapy, which is not consistent with current NSTEMI treatment standards and may limit extrapolation of our findings to the current population of NSTEMI patients.

CONCLUSIONS

Women hospitalised due to NSTEMI in the Swietokrzyskie region were older, had more often concomitant diseases, and were significantly more commonly treated with beta-blockers, diuretics, insulin, and oral hypoglycaemic agents, while men were significantly more commonly subjected to invasive testing and coronary angioplasty. Despite these differences, the prognosis following NSTEMI was similar in both genders. In our study population, female gender was not a significant predictor of outcome.

Conflict of interest: *none declared*

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Charakterystyka kliniczna, przebieg i rokowanie u kobiet z zawałem serca bez uniesienia odcinka ST w województwie świętokrzyskim

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Streszczenie

Wstęp: Coraz częściej zwraca się uwagę na występowanie zależnych od płci istotnych różnic w przebiegu zawału serca. Liczne doniesienia sugerują mniejszą skuteczność nowoczesnych metod terapeutycznych i wyższą śmiertelność w grupie kobiet z zawałem serca bez uniesienia odcinka ST (NSTEMI).

Cel: Celem pracy było porównanie epidemiologii, przebiegu klinicznego, farmakoterapii i rokowania w NSTEMI u kobiet i mężczyzn w województwie świętokrzyskim.

Metody: Analizie poddano 1219 chorych (43% kobiet) hospitalizowanych z powodu NSTEMI w okresie od 01.06.2005 do 31.05.2006 r. w szpitalach województwa świętokrzyskiego. Dane pacjentów z okresu hospitalizacji uzyskano z badań własnych, z bazy danych Ogólnopolskiego Rejestru Ostrych Zespołów Wieńcowych (PL-ACS).

Wyniki: W badanej grupie kobiety były starsze od mężczyzn średnio o ok. 6 lat (72,6 ± 10,3 *v.* 66,7 ± 11,4 roku; $p < 0,0001$). Częściej występowały u nich: nadciśnienie tętnicze (83,4% *v.* 73,45%; $p < 0,0001$), cukrzyca (30,2% *v.* 20,1%; $p < 0,0001$) i otyłość (17,9% *v.* 13,1%; $p < 0,020$), natomiast istotnie rzadziej palenie tytoniu (7,4% *v.* 32,9%; $p < 0,0001$). Prezentacja kliniczna była zbliżona u obu płci. Koronarografię wykonano u 360 chorych, w tym istotnie rzadziej u kobiet (25,2% *v.* 32,8%; $p < 0,05$). Przezskórną angioplastykę wieńcową przeprowadzono istotnie częściej u mężczyzn (18,9% *v.* 12,6%; $p < 0,0033$). Śmiertelność, zarówno szpitalna, 30-dniowa, jak i 6-miesięczna były podobne w grupie kobiet i mężczyzn (odpowiednio 5,3% *v.* 4,9%; 6,9% *v.* 7,3%; 13,2% *v.* 13,1%). W analizie wieloczynnikowej płeć żeńska nie wiązała się z gorszym rokowaniem.

Wnioski: Mimo istotnie bardziej obciążonego profilu ryzyka i rzadszego stosowania leczenia inwazyjnego u kobiet rokowanie po przebyciu NSTEMI jest porównywalne u obu płci i wiąże się z wysoką śmiertelnością odległą.

Słowa kluczowe: kobiety, zawał serca bez uniesienia odcinka ST, rokowanie

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