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Original article

Myocardial perfusion imaging findings and 2-year outcomes in clinically referred asymptomatic patients with type 2 diabetes

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Summary

Introduction. Type 2 diabetes mellitus is associated with an increased risk of coronary artery disease, which frequently remains clinically silent. Myocardial perfusion imaging with single-photon emission computed tomography is widely used for the detection of myocardial ischemia and risk stratification, but its prognostic value in asymptomatic diabetic patients remains uncertain. The aim of this prospective study was to evaluate myocardial perfusion imaging findings and 2-year cardiac outcomes in clinically referred asymptomatic patients with type 2 diabetes.

Methods. This prospective observational study included 198 consecutive outpatients referred for stressrest SPECT myocardial perfusion imaging because of intermediate clinical suspicion of coronary artery disease. The study population consisted of 98 patients with type 2 diabetes and 100 patients without diabetes. Among them, 73 participants were classified as asymptomatic based on structured clinical interviews (37 diabetic and 36 nondiabetic patients). Myocardial perfusion abnormalities were defined as a summed stress score ≥4, while inducible ischemia was defined as a summed difference score ≥2. Participants were followed for approximately 24 months for the occurrence of cardiac events including cardiac death, nonfatal myocardial infarction, and coronary revascularization. Eventfree survival was analyzed using Kaplan–Meier methodology.

Results. Abnormal myocardial perfusion (SSS ≥4) was detected in 18.9% of asymptomatic diabetic patients and 22.2% of asymptomatic nondiabetic patients (p = 0.727). Inducible ischemia (SDS ≥2) was present in 8.1% and 8.3% of participants, respectively (p = 0.98). During the twoyear followup period, three cardiac events occurred in the diabetic group (8.1%), including one cardiac death and two coronary revascularizations, while no events occurred in nondiabetic participants (p = 0.240). Kaplan–Meier analysis demonstrated no statistically significant difference in eventfree survival between diabetic and nondiabetic groups (logrank p = 0.083).

Conclusions. Myocardial perfusion abnormalities were relatively frequent in clinically referred asymptomatic patients with type 2 diabetes; however, shortterm cardiac event rates were low. These findings suggest limited prognostic value of routine myocardial perfusion imaging in unselected asymptomatic diabetic populations and support a selective approach to noninvasive testing.

Key words: type 2 diabetes mellitus, myocardial perfusion imaging, SPECT, silent coronary artery disease, prognosis

Introduction

Type 2 diabetes mellitus (DM) represents one of the most important risk factors for the development of coronary artery disease (CAD) and is associated with a substantially increased risk of cardiovascular morbidity and mortality. Cardiovascular disease remains the leading cause of death among individuals with diabetes, accounting for more than half of all diabetesrelated mortality worldwide. Diabetic patients frequently develop diffuse and accelerated coronary atherosclerosis, often accompanied by endothelial dysfunction and microvascular disease, which may remain clinically silent for prolonged periods [1–3].

A characteristic feature of CAD in patients with diabetes is the frequent absence of typical anginal symptoms. Silent myocardial ischemia is common in this population and has been attributed to autonomic neuropathy and altered pain perception, leading to delayed clinical recognition of coronary disease [4, 5]. As a result, considerable research attention has focused on the detection of subclinical CAD in asymptomatic diabetic patients using noninvasive imaging modalities.

Myocardial perfusion imaging (MPI) with singlephoton emission computed tomography (SPECT) is a wellestablished noninvasive technique for the detection of myocardial ischemia and risk stratification in patients with suspected CAD. Numerous studies have demonstrated the prognostic value of SPECT MPI in symptomatic patients and in populations with known CAD [6–8]. However, the clinical value of MPI screening in asymptomatic diabetic individuals remains controversial.

The Detection of Ischemia in Asymptomatic Diabetics (DIAD) study demonstrated that abnormal perfusion findings were present in approximately 20–25% of asymptomatic diabetic patients, yet the overall cardiac event rate during longterm followup was relatively low [5]. Similarly, subsequent investigations have suggested that routine screening of asymptomatic diabetic individuals provides limited incremental prognostic value beyond clinical risk assessment [9].

Over the past decade, advances in cardiovascular prevention and diabetes treatment have substantially improved outcomes in diabetic populations. Intensive riskfactor modification together with cardioprotective glucoselowering therapies, particularly sodium–glucose cotransporter2 (SGLT2) inhibitors and glucagonlike peptide1 (GLP1) receptor agonists, has been associated with significant reductions in cardiovascular events [10, 11]. Consequently, contemporary clinical guidelines recommend a selective rather than routine approach to noninvasive testing in asymptomatic diabetic patients [12, 13].

Despite these developments, realworld data on the prognostic value of myocardial perfusion imaging in asymptomatic diabetic patients referred for clinical evaluation remain limited. In particular, the relationship between perfusion abnormalities and shortterm cardiovascular outcomes in contemporarily treated populations is incompletely characterized.

Therefore, the aim of the present prospective study was to evaluate myocardial perfusion imaging findings and subsequent cardiac outcomes in a clinically referred cohort of asymptomatic patients with type 2 diabetes undergoing SPECT MPI for evaluation of suspected CAD.

Methods

Study design and population

This prospective observational study enrolled consecutive outpatients referred for myocardial perfusion imaging at a tertiarycare nuclear medicine centre. Referral for SPECT MPI was based on the treating cardiologist's assessment of an intermediate clinical probability of CAD.

A total of 198 consecutive patients were included in the study. The study population consisted of 98 patients with documented type 2 diabetes mellitus and 100 patients without diabetes. Exclusion criteria were: known history of CAD (prior myocardial infarction, coronary revascularization, or coronary angiography demonstrating ≥50% stenosis); typical anginal symptoms at presentation; heart failure with reduced left ventricular ejection fraction (<40%); significant valvular heart disease; contraindications to pharmacological stress testing; pregnancy or lactation; life expectancy less than 24 months due to noncardiac conditions.

The study protocol was approved by the institutional ethics committee, and all participants provided written informed consent prior to inclusion.

Definition of asymptomatic status

Asymptomatic status was determined through structured clinical interviews conducted prior to imaging. Participants were specifically questioned regarding typical angina pectoris, atypical chest discomfort, exertional dyspnoea, fatigue, and epigastric discomfort. Individuals reporting symptoms suggestive of myocardial ischemia or anginal equivalents were excluded from the asymptomatic subgroup.

Based on these criteria, 73 participants were classified as asymptomatic: 37 patients with diabetes and 36 patients without diabetes.

Clinical and laboratory assessment

Baseline demographic and clinical data were collected for all participants, including age, sex, body mass index, cardiovascular risk factors (hypertension, dyslipidaemia, smoking status, family history of premature CAD), and medication use. Hypertension was defined as systolic blood pressure ≥140 mmHg, diastolic blood pressure ≥90 mmHg, or use of antihypertensive medications. Dyslipidaemia was defined as total cholesterol ≥5.2 mmol/L, LDL cholesterol ≥3.4 mmol/L, HDL cholesterol <1.0 mmol/L in men or <1.3 mmol/L in women, triglycerides ≥1.7 mmol/L, or use of lipidlowering medications. Venous blood samples were obtained after an overnight fast for measurement of fasting glucose, HbA1c, lipid profile, and serum creatinine.

Myocardial perfusion imaging protocol

Stressrest myocardial perfusion imaging was performed using a standard SPECT protocol with ^{99m}Tcsestamibi in accordance with European Association of Nuclear Medicine (EANM) recommendations. Pharmacologic stress testing was performed using intravenous dipyridamole (0.56 mg/kg over 4 minutes). Tomographic image acquisition was performed using a dualhead gamma camera with electrocardiographic gating. Image reconstruction was performed using standard filtered backprojection or iterative reconstruction methods according to institutional protocols. Attenuation correction was not applied.

Image analysis

Myocardial perfusion images were analyzed using the standardized 17segment left ventricular model with a 5point scoring system: 0 – normal uptake; 1 – mild reduction; 2 – moderate reduction; 3 – severe reduction; 4 – absent uptake. The following quantitative indices were calculated: Summed Stress Score (SSS); Summed Rest Score (SRS); Summed Difference Score (SDS). Abnormal myocardial perfusion was defined as SSS ≥4. Inducible ischemia was defined as SDS ≥2 [14–16]. Gated SPECT imaging provided measurements of left ventricular ejection fraction (LVEF), enddiastolic volume (EDV), and endsystolic volume (ESV).

Follow-up and outcome definition

Participants were followed for approximately 24-months after MPI. Followup data were obtained through hospital record review, outpatient records, and direct patient contact. The primary outcome measure was the occurrence of major cardiac events defined as cardiac death, nonfatal myocardial infarction, and coronary revascularization (percutaneous or surgical). Myocardial infarction was defined according to the Fourth Universal Definition [17].

Statistical analysis

Continuous variables were expressed as mean ± standard deviation or median with interquartile range depending on distribution. Comparisons between groups were performed using Student ttest or Mann–Whitney test for continuous variables and χ^2 test or Fisher exact test for categorical variables. Exact pvalues were reported for all comparisons. Eventfree survival was analyzed using the Kaplan–Meier method with logrank testing for betweengroup comparisons. Owing to the very low number of cardiac events (only three), multivariable Cox regression analysis was not performed because the model would be unstable and hazard ratios could not be reliably estimated. A twosided p <0.05 was considered statistically significant. Analyses were performed using SPSS version 26.0 (IBM Corp., Armonk, NY, USA).

Results

Baseline characteristics of asymptomatic patients

Of the 198 enrolled patients, 73 (36.9%) were classified as asymptomatic: 37 with diabetes and 36 without diabetes. Baseline clinical characteristics of the asymptomatic cohort are presented in Table 1. The diabetic and nondiabetic groups were wellbalanced regarding age, sex distribution, and most cardiovascular risk factors. Diabetic patients had significantly higher systolic blood pressure (138±14 vs. 132±12 mmHg; p = 0.046), fasting glucose (7.8±1.9 vs. 5.2±0.6 mmol/L; p <0.001), HbA1c (7.4±1.1 vs. 5.3±0.4%; p <0.001), and triglyceride levels (median 2.1 vs. 1.6 mmol/L; p = 0.008). There were no significant differences in the use of cardioprotective medications, although statin and ACE inhibitor/ARB use tended to be higher in the diabetic group.

Myocardial perfusion findings

Abnormal myocardial perfusion (SSS ≥4) was detected in seven of 37 diabetic patients (18.9%) and eight of 36 nondiabetic patients (22.2%), with no significant difference between groups (p = 0.727). Inducible ischemia (SDS ≥2) was present in three patients (8.1%) in the diabetic group and three patients (8.3%) in the nondiabetic group (p = 0.98). Fixed perfusion defects were observed in four diabetic (10.8%) and five nondiabetic patients (13.9%; p = 0.734). Left ventricular ejection fraction and volumes were similar between groups (Table 2).

Cardiac events during followup

During the 24-months followup period, three cardiac events (8.1%) occurred in the diabetic group: one cardiac death and two coronary revascularizations. No myocardial infarctions were recorded. No cardiac events occurred in the nondiabetic group (Table 3). The difference in event rates did not reach statistical significance (p = 0.240, Fisher exact test).

Table 1. Baseline clinical characteristics of asymptomatic patients according to diabetes status

Characteristic Diabetic	(n=37)	Non-diabetic (n=36)	p-value
Age (years)	63.2 ± 8.4	61.8 ± 9.1	0.487
Male sex, n (%)	21 (56.8)	20 (55.6)	0.918
Body mass index (kg/m²)	29.4 ± 4.2	27.8 ± 3.9	0.091
Hypertension, n (%)	28 (75.7)	22 (61.1)	0.180
Dyslipidaemia, n (%)	25 (67.6)	21 (58.3)	0.414
Current smoking, n (%)	8 (21.6)	9 (25.0)	0.735
Family history of CAD, n (%)	12 (32.4)	11 (30.6)	0.862
Systolic BP (mmHg)	138 ± 14	132 ± 12	0.046
Diastolic BP (mmHg)	82 ± 8	80 ± 7	0.238
Fasting glucose (mmol/L)	7.8 ± 1.9	5.2 ± 0.6	<0.001
HbA1c (%)	7.4 ± 1.1	5.3 ± 0.4	<0.001
Total cholesterol (mmol/L)	5.1 ± 1.1	5.3 ± 1.0	0.382
LDL cholesterol (mmol/L)	3.1 ± 0.9	3.3 ± 0.9	0.290
HDL cholesterol (mmol/L)	1.2 ± 0.3	1.3 ± 0.3	0.124
Triglycerides (mmol/L)*	2.1 (1.4–2.8)	1.6 (1.1–2.2)	0.008
eGFR (mL/min/1.73m²)	81.4 ± 16.2	85.7 ± 14.8	0.233
Diabetes duration (years)	8.2 ± 5.6	—	—
Insulin therapy, n (%)	10 (27.0)	—	—
Oral antidiabetics, n (%)	32 (86.5)	—	—
ACE inhibitors/ARBs, n (%)	23 (62.2)	17 (47.2)	0.202
Statin therapy, n (%)	22 (59.5)	15 (41.7)	0.130
Betablockers, n (%)	12 (32.4)	9 (25.0)	0.484
Aspirin, n (%)	18 (48.6)	12 (33.3)	0.188

Data are presented as mean ± SD, median (IQR), or n (%). CAD - coronary artery disease; BP - blood pressure; eGFR - estimated glomerular filtration rate; ACE - angiotensinconverting enzyme; ARB - angiotensin receptor blocker

Table 2. Myocardial perfusion imaging findings in asymptomatic patients

Parameter Diabetic	(n=37)	Non-diabetic (n=36)	p-value
Summed stress score (SSS)	2.1 ± 3.6	2.4 ± 4.1	0.734
Summed rest score (SRS)	1.2 ± 2.8	1.4 ± 3.2	0.782
Summed difference score (SDS)	0.9 ± 1.4	1.0 ± 1.5	0.756
Abnormal perfusion (SSS ≥4), n (%)	7 (18.9)	8 (22.2)	0.727
Inducible ischemia (SDS ≥2), n (%)	3 (8.1)	3 (8.3)	0.980
Fixed defect, n (%)	4 (10.8)	5 (13.9)	0.734
Stress LVEF (%)	62.4 ± 8.1	64.1 ± 7.6	0.343
Rest LVEF (%)	61.8 ± 7.9	63.5 ± 7.4	0.327
Stress EDV (mL)	84.3 ± 18.5	81.6 ± 17.2	0.516
Stress ESV (mL)	32.1 ± 12.4	29.8 ± 11.3	0.403

Data are presented as mean ± SD or n (%). LVEF - left ventricular ejection fraction; EDV - enddiastolic volume; ESV - endsystolic volume

Table 3. Cardiac events during followup in asymptomatic patients

	Event Diabetic (n=37)	Non-diabetic (n=36)
Cardiac death, n (%)	1 (2.7)	0
Nonfatal myocardial infarction, n (%)	0	0
Coronary revascularization, n (%)	2 (5.4)	0
Total cardiac events, n (%)	3 (8.1)	0*
Inducible ischemia (SDS ≥2), n (%)	3 (8.1)	3 (8.3)
Fixed defect, n (%)	4 (10.8)	5 (13.9)

**p = 0.240 (Fisher exact test)*

Event-free survival analysis

Kaplan–Meier analysis demonstrated no statistically significant difference in eventfree survival between asymptomatic diabetic and nondiabetic patients (log-rank p = 0.083; Figure 1). Although all three events occurred in the diabetic group, the overall event rate was very low, and the survival curves did not separate significantly. Owing to the small number of events, hazard ratios could not be reliably estimated.

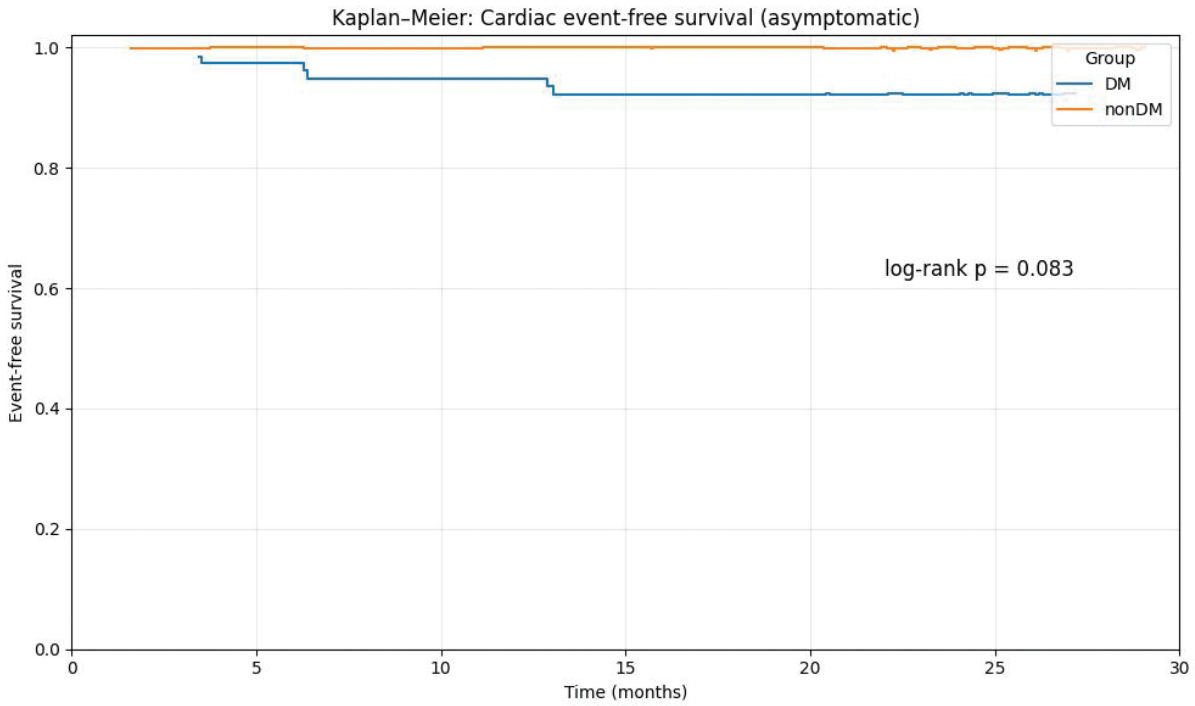

Figure 1. Kaplan–Meier eventfree survival curves for asymptomatic patients with diabetes (solid line) and without diabetes (dashed line). Log-rank p = 0.083

Discussion

This prospective study evaluated myocardial perfusion imaging findings and 2-year outcomes in clinically referred asymptomatic patients with type 2 diabetes and comparable nondiabetic controls. The principal findings are threefold. First, abnormal myocardial perfusion was observed in approximately onefifth of asymptomatic participants, with similar prevalence in diabetic and nondiabetic individuals. Second, inducible ischemia was considerably less frequent than total perfusion abnormalities. Third, despite the moderate prevalence of abnormal MPI findings, the overall incidence of cardiac events during the twoyear followup period remained low.

The relatively high prevalence of abnormal perfusion findings combined with low event rates is an important observation. In asymptomatic diabetic patients, myocardial perfusion abnormalities may reflect a spectrum of pathophysiological processes ranging from subclinical atherosclerosis to microvascular dysfunction, rather than flowlimiting epicardial coronary stenosis. Diabetes mellitus is associated with endothelial dysfunction, impaired coronary flow reserve, and structural microvascular remodeling, mechanisms that can produce perfusion abnormalities detectable by SPECT without necessarily conferring a high shortterm risk of major adverse cardiac events [3, 12]. The present findings support the concept that abnormal perfusion imaging in asymptomatic diabetic individuals should be interpreted cautiously and within the broader clinical context.

Another notable observation is the discrepancy between the prevalence of abnormal perfusion (SSS ≥4) and the prevalence of inducible ischemia (SDS ≥2). While perfusion abnormalities were observed in approximately 18–22% of participants, ischemic defects were present in only about 8% of cases. This difference suggested that a substantial proportion of perfusion abnormalities likely represented fixed or nonreversible defects without clear functional significance. Previous investigations have demonstrated that inducible ischemia is generally a stronger predictor of adverse cardiac outcomes than fixed perfusion abnormalities [6, 14]. The relatively low prevalence of ischemia in the present cohort may partially explain the low rate of observed cardiac events.

Technical aspects of myocardial perfusion imaging may also have influenced the results. Attenuation correction was not applied, which may have reduced specificity and increased the apparent prevalence of fixed perfusion defects. Softtissue attenuation artifacts, particularly in the inferior and anterior myocardial walls, are wellrecognized limitations of noncorrected SPECT imaging [15, 16]. This methodological factor should be considered when interpreting the results.

The concentration of all recorded cardiac events within the diabetic subgroup, although not statistically significant, is consistent with the wellestablished increased cardiovascular risk associated with diabetes [1, 2]. The absence of a statistically significant difference between diabetic and nondiabetic participants is likely related to the limited number of observed events rather than the absence of a true risk gradient. The borderline logrank pvalue (0.083) suggests a possible divergence that might become more evident in studies with larger sample sizes or longer followup.

Comparison with previously published studies shows both agreement and evolution in the prognostic role of MPI in asymptomatic diabetic populations. The prevalence of abnormal MPI findings in the present study is consistent with the DIAD trial, where approximately onefifth of asymptomatic diabetic patients exhibited perfusion abnormalities [5]. However, contemporary event rates appear lower than those reported in earlier studies. This temporal trend likely reflects improvements in preventive cardiology, including widespread use of statins, renin–angiotensin

system inhibitors, and cardioprotective glucoselowering therapies such as SGLT2 inhibitors and GLP1 receptor agonists [10, 11]. Improved risk factor control may reduce the prognostic impact of mild perfusion abnormalities detected by imaging.

Current clinical guidelines emphasize a selective approach to the evaluation of CAD in asymptomatic diabetic patients. Both European and American recommendations discourage routine stress testing in asymptomatic individuals without additional highrisk features [12, 13]. The findings of the present study support this approach by demonstrating limited shortterm prognostic yield of MPI in an unselected asymptomatic diabetic population referred for clinical evaluation. Routine screening strategies based solely on the presence of diabetes may result in unnecessary testing without clear clinical benefit.

From a clinical perspective, MPI may be more appropriately targeted to asymptomatic diabetic patients with additional markers of increased cardiovascular risk, such as longstanding diabetes, multiple cardiovascular risk factors, abnormal resting electrocardiography, or evidence of endorgan damage. A more selective strategy may improve diagnostic efficiency while reducing unnecessary radiation exposure and healthcare costs.

Limitations

Several important limitations should be acknowledged. First, the study population consisted of patients already referred for MPI based on clinical judgment; therefore, the results could not be generalized to the general asymptomatic population. The cohort was selected and might have a higher baseline risk than truly unselected individuals. Second, the sample size of the asymptomatic cohort was relatively small (n=73), limiting statistical power. Third, only three cardiac events occurred during followup, precluding multivariable adjustment and stable estimation of hazard ratios. With such a low event count, the risk of type II error is substantial – a true difference between groups may exist but could not be detected. Fourth, the borderline logrank pvalue (0.083) should be interpreted with extreme caution; the observation that all events occurred in the diabetic group could be due to chance variation. Fifth, attenuation correction was not applied, potentially leading to falsepositive perfusion defects. Sixth, the singlecentre design might limit generalizability to other settings. Seventh, longer followup is needed to determine whether the low shortevent rate persists over time.

Because of the very low number of events, we were unable to perform Cox regression analysis or to calculate hazard ratios; this should be clearly recognized as a major methodological constraint. The findings should therefore be regarded as exploratory and hypothesisgenerating rather than definitive.

Future directions

Larger prospective studies with extended followup are needed to clarify the longterm prognostic significance of perfusion abnormalities in asymptomatic patients. The role of novel imaging techniques, such as positron emission tomography with absolute myocardial blood flow quantification, may improve risk stratification by distinguishing epicardial from microvascular disease [3]. Additionally, randomized trials are needed to determine whether routine screening with MPI improves outcomes compared with optimal medical therapy alone in highrisk asymptomatic diabetic patients.

Conclusions

In this prospective observational study of clinically referred asymptomatic patients, myocar-

dial perfusion abnormalities were relatively frequent in those with type 2 diabetes, but the 2-year incidence of cardiac events was low. These findings suggest that routine myocardial perfusion imaging in unselected asymptomatic diabetic individuals has limited shortterm prognostic value. The results should be interpreted with caution due to the small sample size, very low number of events, and the selected nature of the cohort. They support current guideline recommendations for a selective approach to noninvasive testing in asymptomatic diabetic patients.

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Ethical approval. The Ethics Committee of the University Clinical Center of Republic of Srpska, Banja Luka, Republic of Srpska, Bosnia and Herzegovina, approved the study and informed consent was obtained from all individual respondents. The research was conducted according to the Declaration of Helsinki.

Conflicts of interest. The authors declare no conflict of interest.

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Nalazi snimanja miokardne perfuzije i dvogodišnji ishodi kod klinički upućenih asimptomatskih pacijenata sa dijabetesom tipa 2

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Uvod. Šećerna bolest tipa 2 povezana je sa povećanim rizikom od koronarne bolesti srca, koja često može ostati klinički neprepoznata zbog odsustva simptoma. Scintigrafija perfuzije miokarda metodom jednofotonske emisijske kompjuterizovane tomografije široko se koristi za detekciju miokardne ishemije i procjenu kardiovaskularnog rizika, ali njen prognostički značaj kod asimptomatskih bolesnika sa dijabetesom nije u potpunosti razjašnjen. Cilj ove prospektivne studije bio je da se procijene nalazi perfuzione scintigrafije miokarda i dvogodišnji kardiološki ishodi kod klinički upućenih asimptomatskih bolesnika sa dijabetesom tipa 2.

Metode. U ovu prospektivnu opservacionu studiju uključeno je 198 uzastopnih ambulantnih bolesnika upućenih na stresrest SPECT scintigrafiju perfuzije miokarda zbog srednje kliničke vjerovatnoće koronarne bolesti. Studijsku populaciju činilo je 98 bolesnika sa dijabetesom tipa 2 i 100 bolesnika bez dijabetesa. Ukupno 73 ispitanika klasifikovana su kao asimptomatska na osnovu strukturisanog intervjua (37 dijabetičara i 36 nedijabetičara). Poremećaj perfuzije definisan je kao *summed stress score* ≥4, dok je ishemija definisana kao *summed difference score* ≥2. Praćenje je trajalo približno 24 mjeseca i obuhvatilo je pojavu srčanih događaja: srčanu smrt, nefatalni infarkt miokarda i koronarnu revaskularizaciju.

Rezultati. Poremećaji perfuzije miokarda (SSS ≥4) registrovani su kod 18,9% asimptomatskih dijabetičara i 22,2% asimptomatskih nedijabetičara (p = 0,727). Ishemija (SDS ≥2) bila je prisutna kod 8,1% dijabetičara i 8,3% nedijabetičara (p = 0,98). Tokom dvogodišnjeg praćenja registrovana su tri srčana događaja (8,1%) u grupi dijabetičara: jedna srčana smrt i dvije revaskularizacije, dok u grupi bez dijabetesa nije bilo događaja (p = 0,240). Kaplan–Meier analiza nije pokazala statistički značajnu razliku u preživljavanju bez događaja između grupa (log-rank p = 0,083).

Zaključak. Poremećaji perfuzije miokarda relativno su česti kod klinički upućenih asimptomatskih bolesnika sa dijabetesom tipa 2, ali je kratkoročni rizik od srčanih događaja nizak. Dobijeni rezultati ukazuju na ograničenu prognostičku vrijednost rutinskog izvođenja perfuzione scintigrafije miokarda kod neselektovanih asimptomatskih dijabetičara i podržavaju selektivan pristup neinvazivnom testiranju.

Ključne riječi: dijabetes melitus tip 2, perfuziona scintigrafija miokarda, SPECT, asimptomatska koronarna bolest, prognoza