Rizični čimbenici za akutni infarkt miokarda s elevacijom ST-segmenta u mladih bolesnika

Risk factors for acute ST-segment elevation myocardial infarction in young patients

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Uvod: Akutni koronarni sindrom (AKS), uključujući akutni infarkt miokarda s elevacijom ST-segmenta (STEMI), ima veću prevalenciju u starijih, zbog čega je manje istraživanja rađeno s mladim bolesnicima.[1] Dobna granica za mlade bolesnike varira među istraživanjima, ali najzastupljenija je ona od 45 godina. Razlike u profilu čimbenika rizika mlađih u odnosu na starije bolesnike su viša prevalencija pušenja, pozitivna obiteljska anamneza preuranjene koronarne bolesti srca (OA) i muški spol.

Bolesnici i metode: Napravili smo retrospektivnu analizu povijesti bolesti 164 bolesnika (prosječne dobi 43,9 ± 6,5 godina) hospitaliziranih sa STEMI u Kliničkom bolničkom centru Zagreb između siječnja 2012. i listopada 2018. s dobnom granicom od 45 godina za muškarce (n = 102) i 55 godina za žene (n = 62). Analizirane varijable prikazane su u **tablici 1**. Indeks tjelesne mase (BMI, kg/m^2) je tumačen kao ≤ 18,5 (pothranjenost), 18,6–24,9 (normalna uhranjenost), 25,0–29,9 (prekomjerna tjelesna težina), ≥ 30 (pretilost). Pozitivnu OA definirali smo rođacima s AKS, stabilnom koronarnom bolesti srca (SKB) ili cerebrovaskularnom bolesti.

Rezultati: Kao što je vidljivo u **tablici 1**, većina bolesnika bila je muškog spola (62,2%), imali su visok BMI (n =119; 76,8%) te su bili pušači više nego bivši pušači, odnosno nepušači (78,1%; 5,6%; 16,3%). Većina je imala pozitivnu OA (53,7%), a manjina arterijsku hipertenziju (49,4%), šećernu bolest (DM; 7,4%) i bolest štitnjače (4,9%). Smrtnost unutar bolnice bila je 0,6% (n = 1), dok je 10,4% pac. (n = 17) zahtijevalo rehospitalizaciju. Glavni razlog ponovnog bolničkog liječenja bio je AKS (64,7%), praćen sa SKB (11,8%) i aritmijama (11,8%) te potom srčanim zatajivanjem (5,9%) i drugim razlozima (5,9%). Značajna povezanost pronađena je između potrebe za rehospitalizacijom i dužine boravka tijekom hospitalizacije za inicijalni STEMI (OR=1.105, p = 0.01), kao i s inzulinskom terapijom za DM (OR=22.873, p = 0.01).

Zaključak: Najizraženiji rizični čimbenici u populaciji mladih bolesnika sa STEMI bili su pušenje, povećan BMI i muški spol. Otprilike 1 od 10 bolesnika zahtijevao je rehospitalizaciju, većinom zbog AKS i to pretežno u bolesnika s dužim boravkom tijekom inicijalne hospitalizacije i u onih na terapiji inzulinom. Smrtni slučaj unutar bolnice zabilježen je u samo jednog pacijenta.

Introduction: Acute coronary syndrome (ACS), including acute ST-segment elevation myocardial infarction (STEMI), is more prevalent in older patients (pts), leading to fewer studies with young pts.[1] The age limit varies among studies, but a cut-off of 45 years (yr.) is the most common. Traditional differences described in the risk factors for younger compared to older pts. include a higher prevalence of smoking, family history of premature coronary heart disease (FH) and male gender.

Patients and Methods: We performed a retrospective analysis of medical records of 164 pts. (mean age 43.9±6.5 yr.) hospitalized with STEMI at the University Hospital Centre Zagreb from January 2012 to October 2018, with a cut-off at 45 yr. for men (n=102) and 55 yr. (n=62) for women. Analyzed variables are listed in **Table 1**. Body mass index (BMI, kg/m^2) was interpreted as: ≤18.5 (underweight), 18.6–24.9 (normal), 25.0–29.9 (overweight), ≥30 (obese). Positive cardiovascular FH was defined as relatives with ACS, stable coronary artery disease (SCAD) or cerebrovascular disease.

Results: As seen in **Table 1**, the majority of pts. were male (62.2%), had a high BMI (n=119; 76.8%), and were current smokers rather than former or non-smokers (78.1% vs 5.6% and 16.3%). The majority of pts. had positive FH (53.7%), whereas the minority had arterial hypertension (49.4%), diabetes mellitus (DM; 7.4%) and a thyroid condition (4.9%). In-hospital mortality was 0.6% (n=1), while 10.4% of pts. (n=17) required rehospitalization (rehosp.). The vast majority of rehosp. were due to ACS (64.7%), followed by SCAD (11.8%), arrhythmias (11.8%), heart failure (5.9%) and other causes (5.9%). A significant correlation was found between the need for rehosp. and the length of stay during hospitalization for the initial STEMI (OR=1.105, p=0.01), as well as with insulin-treated DM (OR=22.873, p=0.01).

Conclusion: The most prominent risk factors in the studied population of young STEMI pts. were smoking, increased BMI and male gender. Roughly one out of ten pts. required rehosp., largely due to ACS, which mostly occurred in pts. with longer initial hospitalization lengths or those on insulin therapy. In-hospital mortality was noted in only one patient.

TABLE 1. Patients' characteristics.

Variable	N (%)	Variable	N (%)
Gender		**Thyroid condition**	
Male	**102** (62.2)	Hypothyroidism	**8** (4.9)
Female	**62** (37.8)	Hyperthyroidism	**0** (0)
BMI		**Therapy at discharge**	
≤ 18.5	**0** (0)	Aspirin	**157** (96.9)
18.5 – 24.9	**36** (23.2)	P2Y12 inhibitor	
25.0 – 29.9	**61** (39.4)	Clopidogrel	**90** (55.6)
≥ 30.0	**58** (37.4)	Ticagrelor	**67** (41.4)
Smoking status		Beta blocker	**134** (82.7)
Non-smokers	**26** (16.3)	ACE inhibitor	**127** (78.4)
Former smokers	**9** (5.6)	ARB	**5** (3.1)
Current smokers	**125** (78.1)	MRA	**22** (13.6)
Arterial hypertension	**80** (49.4)	Nitrate	**20** (12.3)
Diabetes mellitus		Statin	**159** (98.1)
Type 1	**2** (1.2)	Antiischemic drug	**11** (6.8)
Type 2	**10** (6.2)	Factor Xa inhibitor	**40** (24.7)
Therapy for diabetes mellitus		Antiarrhythmic	**17** (10.5)
Insulin	**3** (1.9)	Diuretic	**12** (7.4)
Oral hypoglycemics	**7** (4.4)	Heparin	**4** (2.5)
Positive family history	**87** (53.7)	Vasodilator	**1** (0.6)
		Fibrate	**5** (3.1)
		Warfarin	**3** (1.9)

BMI = Body Mass Index; ACE = Angiotensin-Converting Enzyme; ARB = Angiotensin II Receptor Blocker; MRA = Mineralocorticoid Receptor Antagonist

LITERATURE

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