Influence of the body mass index on the remote outcomes after the first myocardial infarction

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Objectives: To estimate the influence of an index of weight of a body (BMI) on a lethality and survival after the first myocardial infarction in the remote period.

Patients and Methods: Patients after the first myocardial infarction, which happened in 1996-1998, all men ($n=232$), mean age 48.6 ± 5.52 . Supervision median 116.4 months (9.7 years), the maximal 170 months (14.2 years). During the supervision, 108 people died of a cardiovascular disease, and 124 persons remained alive. Patients were arranged in 4 groups on the size of initial BMI: I. BMI <22 ; II. BMI from 22 to 24.9; III. from 25.0 to 29.9; IV. BMI ≥ 30 . Group selection with BMI less than 22, instead of less than 18.5 (as index of an underweight of a body by criteria of VOZ, 1997 of g) is caused by that the least BMI on all group of supervision made 20. BMI was calculated by means of an index of Kettle (kg/m^2), establishment of the fact of existence of level of interrelation — by means of criterion a chi-square, for a connection assessment between BMI and a lethality the index of the relative risk (RR) was used, reliability of results was estimated on Student's criterion (t), statistically reliable distinctions were considered at $p < 0.01$.

Results: In the group of the dead average BMI made 26.65 ± 3.56 , in the group of the survived BMI was 25.84 ± 4.27 — groups authentically did not differ in size BMI (to $t=3.4$; $p < 0.05$). The fact of existence of reliable interrelation between criterion of IMT and the remote lethal outcome of a postmyocardial infarction cardiosclerosis was not established ($\chi^2=1.186$, number of degree of freedoms of $df=2$, $p=1.0$), however, depending on size BMI changed RR. The risk of death made 1.4, 1.01, 1.01 and 0.77 among persons

with BMI less than 22, 22-24.9, 25-29.9 and 30 and more respectively. The relative risk of death was lower in patients with BMI ≥ 30 in comparison with patients with BMI from 22 to 24.9 ($RR=0.75$, $\chi^2 < 0.01$) and with BMI less than 22 ($RR=0.55$, $p < 0.05$). The relation of risk to die to the survived made 0.77 in the group with BMI ≥ 30 , chances in groups with BMI=22-24.9 and with BMI=25-29.9 did not change, chances (RR to 1.4) — in the group with BMI <22 increased.

Conclusions: BMI is not a reliable predictor of the remote prognosis after the primary myocardial infarction. With a known share of probability the risk of death in the remote postmyocardial infarction period increases in persons with BMI less than 22 and decreases with BMI 30 and more.

KEYWORDS: body mass index, myocardial infarction, prognosis.

CITATION: *Cardiol Croat.* 2013;8(9):316.

Received: 29th Jun 2013

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