Table 16 Intervention strategies as a function of total cardiovascular risk and low-density lipoprotein cholesterol level

Total CV risk (SCORE) %	LDL-C lvels				
	<70 mg/dL <1.8 mmol/L	70 to <100 mg/dL 1.8 to <2.5 mmol/L	100 to <155 mg/dL 2.5 to <4.0 mmol/L	155 to <190 mg/dL 4.0 to <4.9 mmol/L	>190 mg/dL >4.9 mmol/L
<1	No lipid intervention	No lipid intervention	Lifestyle intervention	Lifestyle intervention	Lifestyle intervention, consider drug if uncontrolled
Class[a]/Level[b]	I/C	I/C	I/C	I/C	IIa/A
≥1 to <5	Lifestyle intervention	Lifestyle intervention	Lifestyle intervention, consider drug if uncontrolled	Lifestyle intervention, consider drug if uncontrolled	Lifestyle intervention, consider drug if uncontrolled
Class[a]/Level[b]	I/C	I/C	IIa/A	IIa/A	I/A
>5 to <10, or high risk	Lifestyle intervention, consider drug	Lifestyle intervention, consider drug	Lifestyle intervention and immediate drug intervention	Lifestyle intervention and immediate drug intervention	Lifestyle intervention and immediate drug intervention
Class[a]/Level[b]	IIa/A	IIa/A	IIa/A	I/A	I/A
≥10 or very high risk	Lifestyle intervention, consider drug*	Lifestyle intervention and immediate drug intervention	Lifestyle intervention and immediate drug intervention	Lifestyle intervention and immediate drug intervention	Lifestyle intervention and immediate drug intervention
Class[a]/Level[b]	IIa/A	IIa/A	I/A	I/A	I/A

Reference table.[42]
CV = cardiovascular; LDL = low-density lipoprotein.
[a]Class of recommendation.
[b]Level of evidence.

Eur Heart J. 2012 May 3

Nutraceuticals

are concentrated forms of presumed bioactive substances originally derived from foods, but now present in non food matrix, and used to enhance health in dosages exceeding those obtainable in normal food

Effects of nutraceuticals on prevalence of metabolic syndrome and on calculated Framingham Risk Score in individuals with dyslipidemia

Raffaele Izzo[a], Giovanni de Simone[b], Renata Giudice[a], Marcello Chinali[b], Valentina Trimarco[c], Nicola De Luca[a] and Bruno Trimarco[a]

Background Nutraceuticals (NUTs) are forms of compounds with biological activity and are used to improve health in dosage largely exceeding those obtainable in food.

Objectives To investigate whether addition of NUTs to lifestyle management including diet counseling improves lipid profile and reduces cardiovascular risk and prevalence of metabolic syndrome (MetS).

Methods One thousand, three hundred and eighty, 18–80-year-old nondiabetic participants with dyslipidemia, with or without MetS not requiring pharmacological therapy were assigned to diet; after 2 weeks, 690 patients were also given NUT combination over other 8 weeks. Fasting plasma glucose and lipid compounds were measured by standard methods. Waist circumference, systolic and diastolic blood pressure (BP) were measured at each visit. MetS was defined according to ATPIII guidelines. Ten-year risk of coronary heart disease was calculated using the Framingham Risk Score (FRS).

Results At baseline, NUT patients were older and more dyslipidemic than placebo, with no difference in other cardiovascular risk factors and prevalence of MetS. After 8 weeks, high-density lipoprotein (HDL) cholesterol was increased and diastolic BP, waist girth, triglycerides, total and non-HDL cholesterol were significantly reduced in NUT than in the placebo group, whereas systolic BP and fasting glucose did not change. Prevalence of MetS was also significantly lower in the NUT (36.1%) than in placebo (48.1%, $P<0.05$) and reduction in the FRS greater (73.3 vs. 52%, respectively; $P<0.0001$).

Conclusion In a large clinical sample of patients with moderate cardiovascular risk, combination of NUT with dietary counseling reduces central obesity, improves lipid profile, diastolic BP and FRS, and decreases prevalence of MetS. *J Hypertens* 28:1482–1487 © 2010 Wolters Kluwer Health | Lippincott Williams & Wilkins.

Journal of Hypertension 2010, 28:1482–1487

Keywords: cardiovascular risk, hypertension, metabolic syndrome

Abbreviations: FRS, Framingham Risk Score; MetS, metabolic syndrome; NUT, nutraceutical

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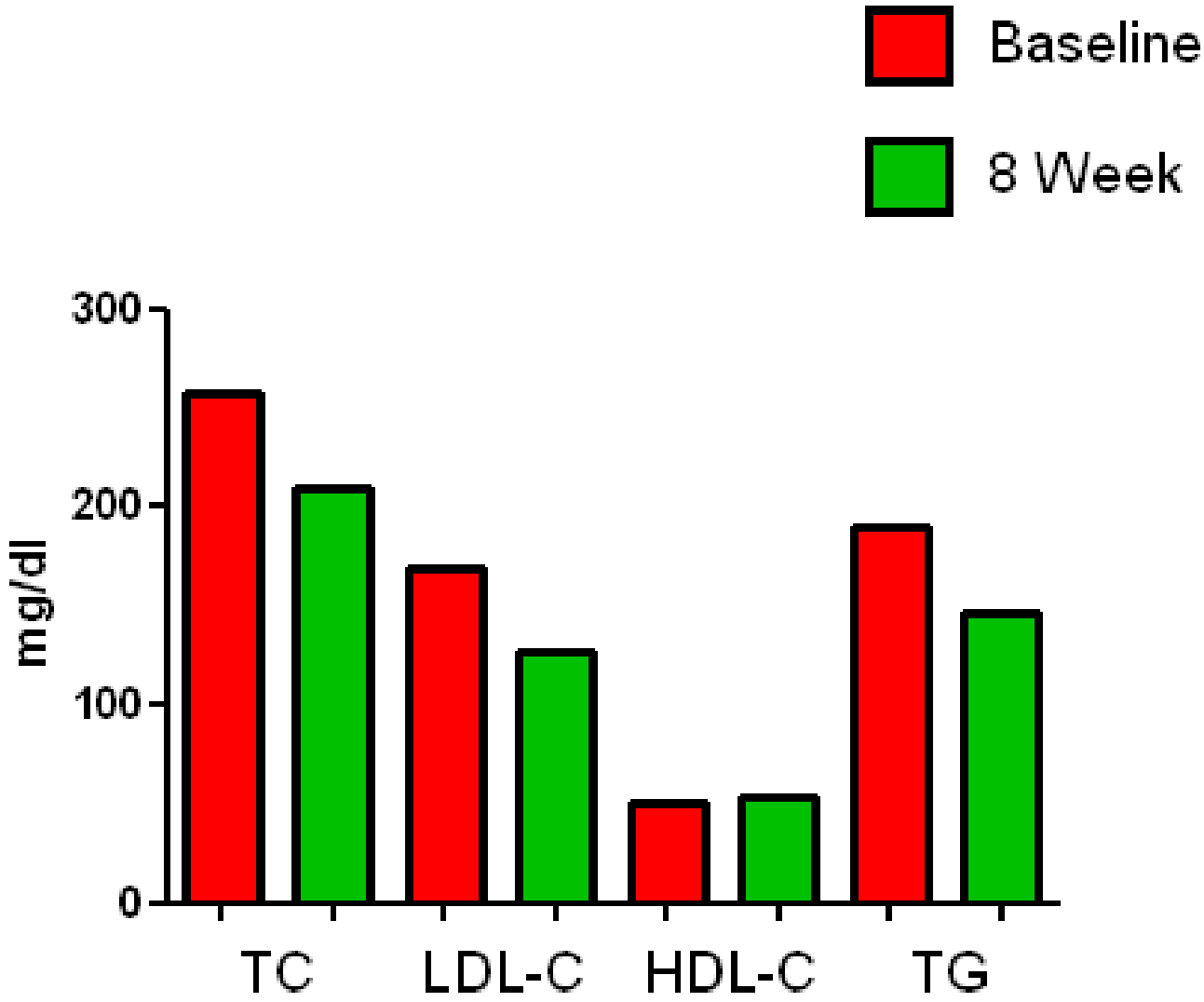
Tel: +39 081 7462250; fax: +39 081 7462256; e-mail: trimarco@unina.it

Received 10 December 2009 Revised 4 February 2010
Accepted 3 March 2010

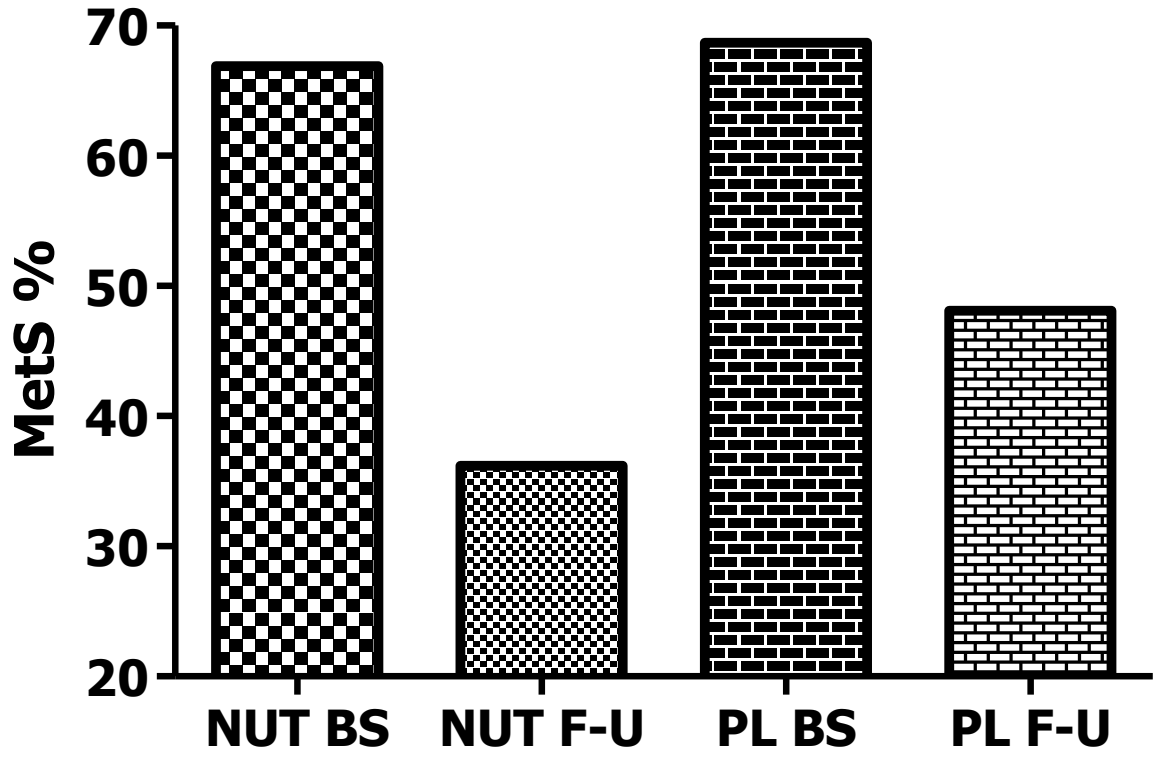
	Study group	Control group	*P*
Systolic blood pressure	−3.57 (−7.14 to 0.00)	−3.44 (−6.89 to 0.00)	NS
Diastolic blood pressure	−2.50 (−6.66 to 0.00)	0.00 (−6.25 to 0.00)	0.005
Heart rate	−0.55 (−5.00 to 2.56)	−1.23 (−5.26 to 2.77)	NS
Triglyceridemia	−18.51 (−31.81 to −9.64)	−10.02 (−20.38 to −2.58)	0.000
Cholesterolemia	−18.40 (−24.13 to −12.92)	−7.69 (−13.24 to −3.75)	0.000
HDL cholesterolemia	6.66 (0.00 to 17.64)	1.37 (−4.33 to 9.35)	0.000
No HDL cholesterolemia	−24.39 (−31.77 to −17.73)	−9.78 (−18.07 to −3.72)	0.000
Glycemia	−4.00 (−9.09 to 1.98)	−3.36 (−8.16 to 2.22)	NS
Waist measurement	−2.44 (−5.00 to −1.04)	2.00 (−3.96 to 0.00)	0.000

HDL, high-density cholesterol. [a]Mann–Whitney test.

Journal of Hypertension 2010, 28:1482–1487

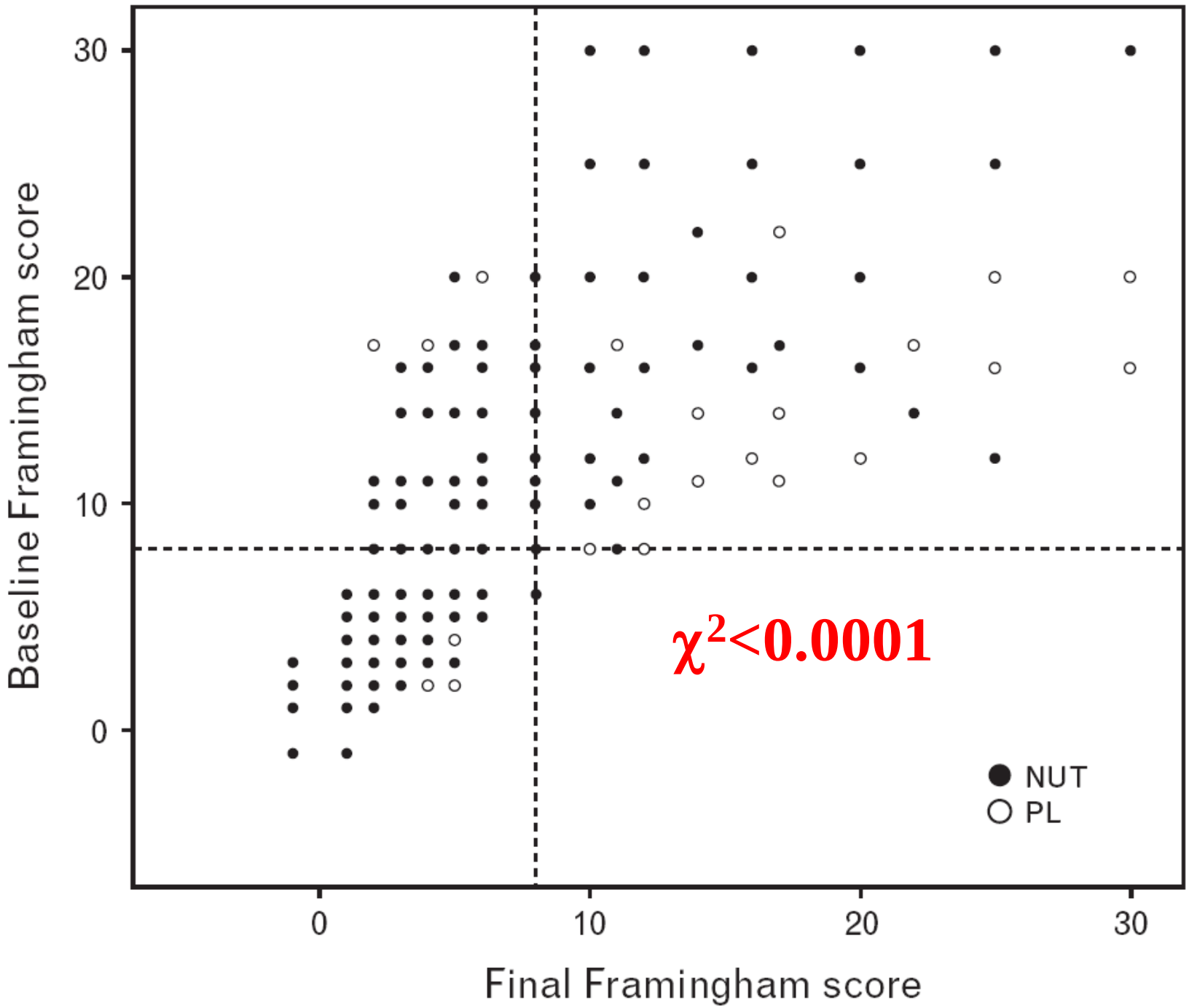


Journal of Hypertension 2010, 28:1482–1487

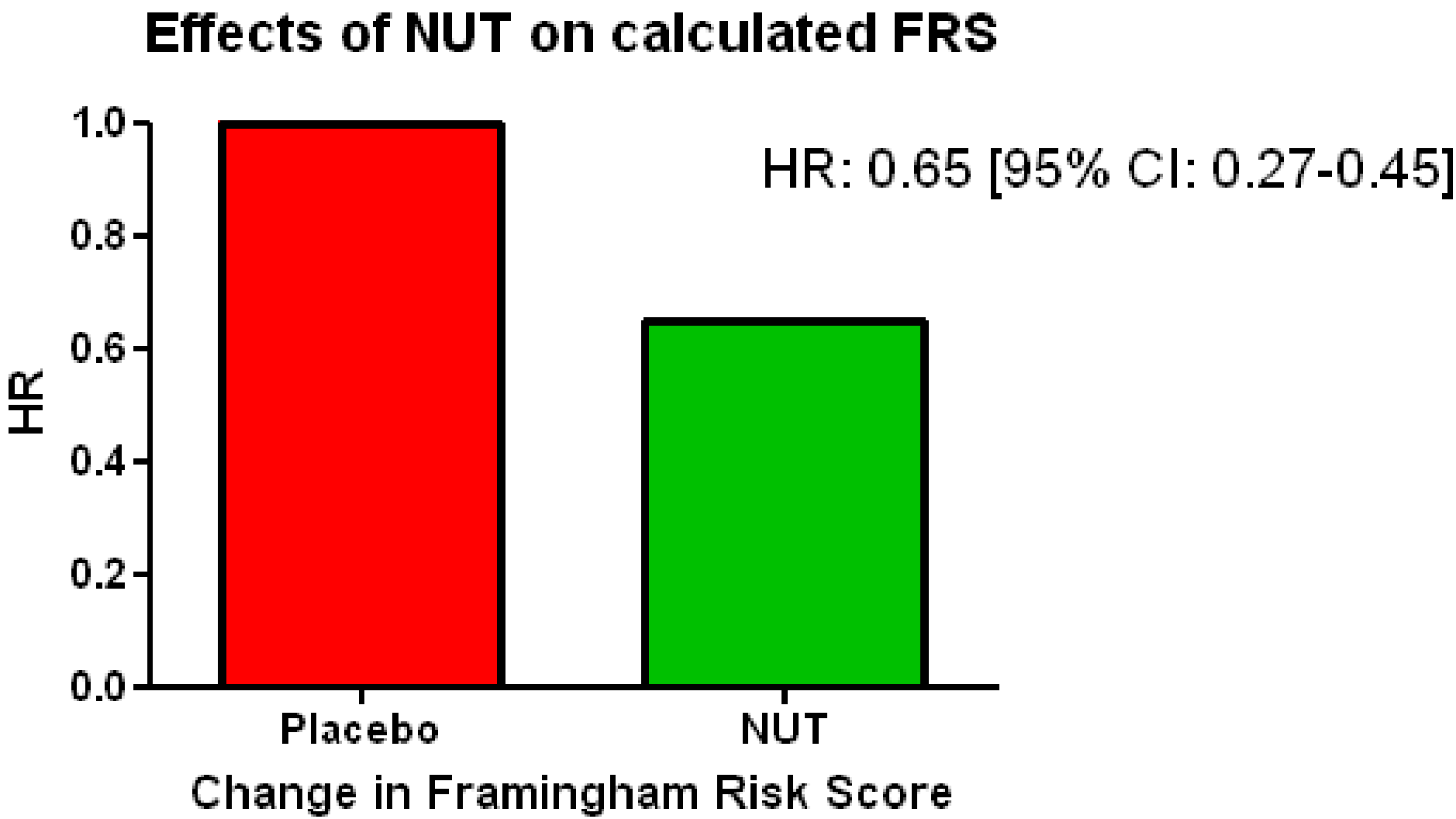


p = NS (NUT BS vs PL BS)
p < 0.0001 (NUT F-U vs PL F-U)

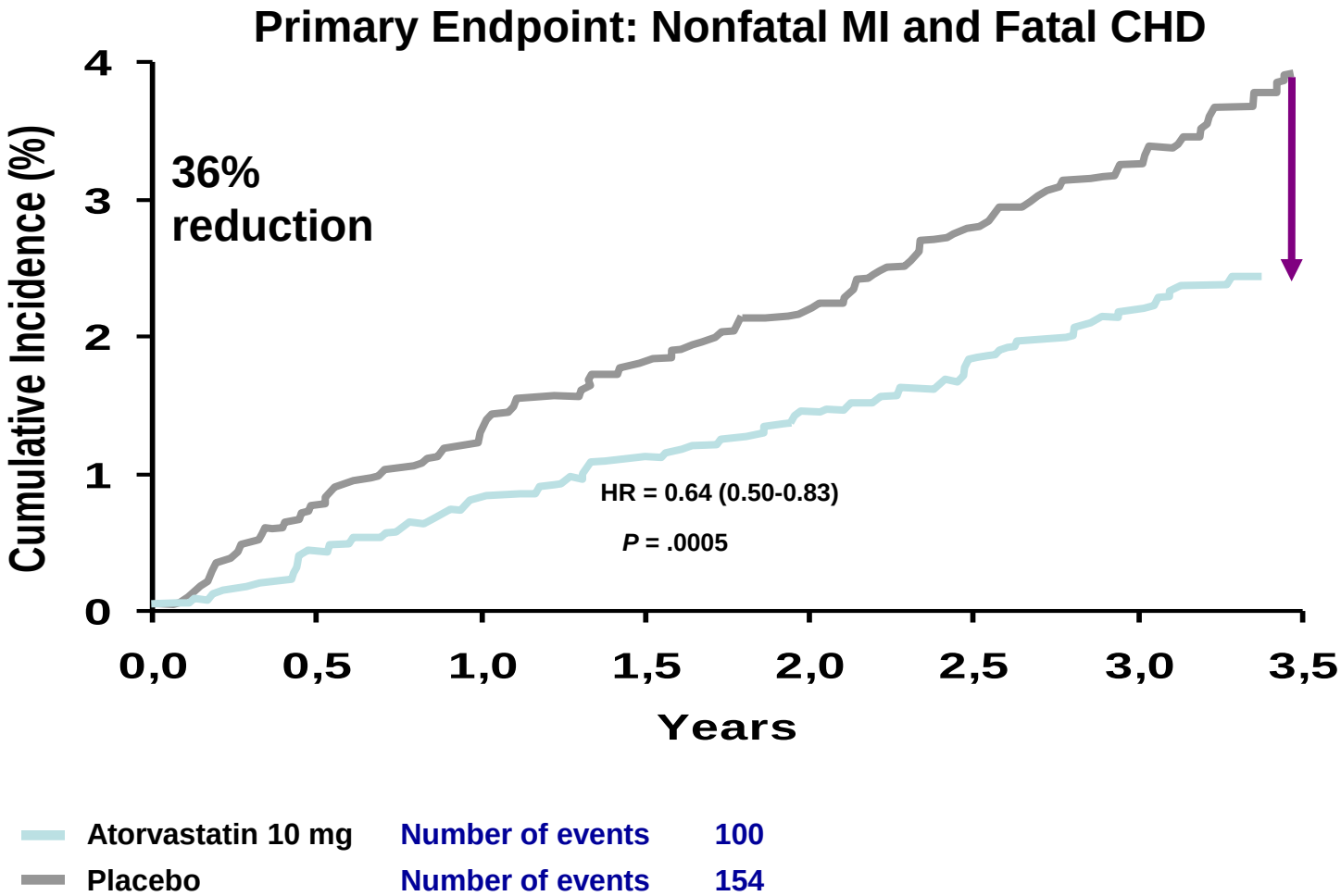
Journal of Hypertension 2010, 28:1482–1487



Journal of Hypertension 2010, 28:1482–1487


Effects of NUT on calculated FRS
HR: 0.65 [95% CI: 0.27-0.45]
HR
1.0
0.8
0.6
0.4
0.2
0.0
Placebo
NUT
Change in Framingham Risk Score

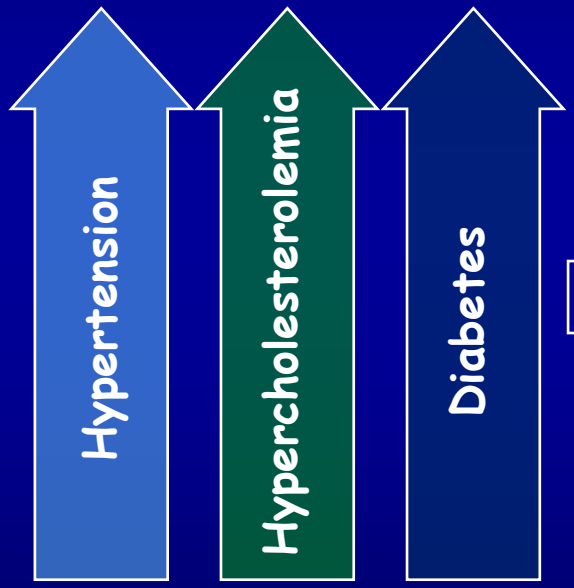
Prevention of coronary and stroke events with atorvastatin in hypertensive patients who have average or lower-than-average cholesterol concentrations, in the Anglo-Scandinavian Cardiac Outcomes Trial—Lipid Lowering Arm (ASCOT-LLA): a multicentre randomised controlled trial



Sever PS, et al. *Lancet*. 2003;361:1149-1158.

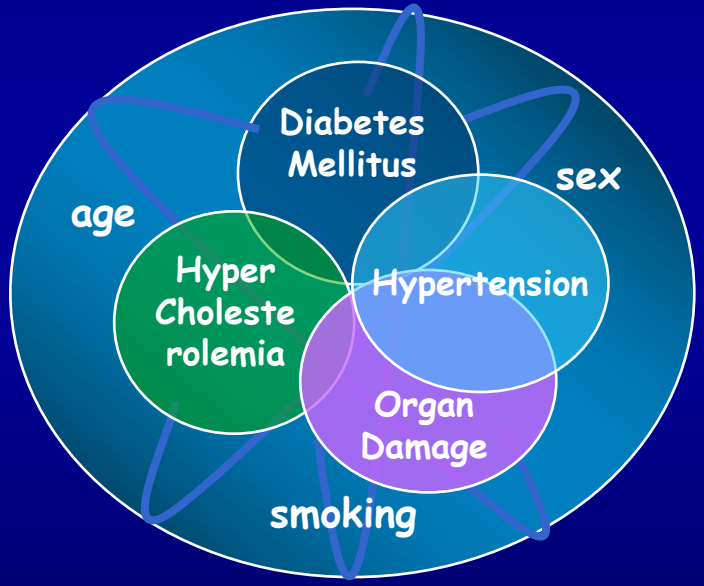
Modern Strategy for CVD Prevention

Traditional CVD Perspective



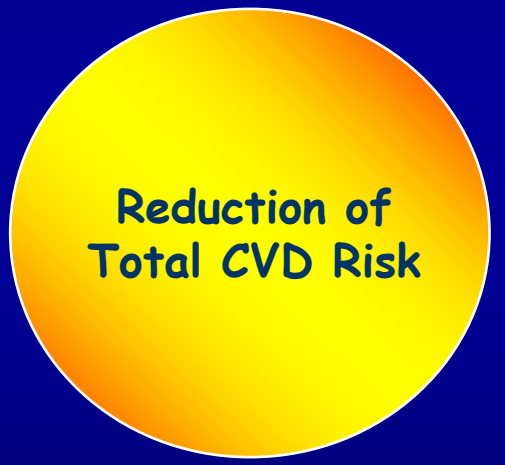
Multiple Independent Risk Factors Management (Silo Approach)

New CVD Risk Perspective



Integrated Identification and management of Risk Factors contributing to CVD Risk (Global Approach)

New Targets and Goals for Therapy



Integrated Guidelines for Global CV Reduction

Volpe M, et al. J Human Hypertens 2007

European Heart Journal (2002) **23**, 1267–1275
doi:10.1053/euhj.2001.3113, available online at http://www.idealibrary.com on IDEAL®

Two-hour glucose is a better risk predictor for incident coronary heart disease and cardiovascular mortality than fasting glucose

Q. Qiao[1], K. Pyörälä[2], M. Pyörälä[2], A. Nissinen[1], J. Lindström[1], R. Tilvis[3] and J. Tuomilehto[1,4]

[1]*Diabetes and Genetic Epidemiology Unit, Department of Epidemiology and Health Promotion, National Public Health Institute, Helsinki, Finland;* [2]*Department of Medicine, University of Kuopio, Kuopio, Finland;* [3]*Division of Geriatrics, Department of Medicine, University of Helsinki, Helsinki, Finland;* [4]*Department of Public Health, University of Helsinki, Helsinki, Finland*

Conclusion: In subjects without a prior history of diabetes the association of 2-h glucose with coronary heart disease incidence and cardiovascular mortality is graded and independent.
The results of our study indicate that 2-h glucose is superior to fasting glucose in assessing the risk of future cardiovascular events.

Annals of Internal Medicine | ARTICLE

Association of Hemoglobin A_{1c} with Cardiovascular Disease and Mortality in Adults: The European Prospective Investigation into Cancer in Norfolk

Kay-Tee Khaw, MBBChir, FRCP; Nicholas Wareham, MBBS, FRCP; Sheila Bingham, PhD; Robert Luben, BSc; Ailsa Welch, BSc; and Nicholas Day, PhD

Background: Increasing evidence suggests a continuous relationship between blood glucose concentrations and cardiovascular risk, even below diagnostic threshold levels for diabetes.

Objective: To examine the relationship between hemoglobin A_{1c}, cardiovascular disease, and total mortality.

Design: Prospective population study.

Setting: Norfolk, United Kingdom.

Participants: 4662 men and 5570 women who were 45 to 79 years of age and were residents of Norfolk.

Measurements: Hemoglobin A_{1c} and cardiovascular disease risk factors were assessed from 1995 to 1997, and cardiovascular disease events and mortality were assessed during the follow-up period to 2003.

Results: In men and women, the relationship between hemoglobin A_{1c} and cardiovascular disease (806 events) and between hemoglobin A_{1c} and all-cause mortality (521 deaths) was continuous and significant throughout the whole distribution. The relationship was apparent in persons without known diabetes. Persons with hemoglobin A_{1c} concentrations less than 5% had the lowest rates of cardiovascular disease and mortality. An increase in hemoglobin A_{1c} of 1 percentage point was associated with a relative risk for death from any cause of 1.24 (95% CI, 1.14 to 1.34; $P < 0.001$) in men and with a relative risk of 1.28 (CI, 1.06 to 1.32; $P < 0.001$) in women. These relative risks were independent of age, body mass index, waist-to-hip ratio, systolic blood pressure, serum cholesterol concentration, cigarette smoking, and history of cardiovascular disease. When persons with known diabetes, hemoglobin A_{1c} concentrations of 7% or greater, or a history of cardiovascular disease were excluded, the result was similar (adjusted relative risk, 1.26 [CI, 1.04 to 1.52]; $P = 0.02$). Fifteen percent (68 of 521) of the deaths in the sample occurred in persons with diabetes (4% of the sample), but 72% (375 of 521) occurred in persons with HbA_{1c} concentrations between 5% and 6.9%.

Limitations: Whether HbA_{1c} concentrations and cardiovascular disease are causally related cannot be concluded from an observational study; intervention studies are needed to determine whether decreasing HbA_{1c} concentrations would reduce cardiovascular disease.

Conclusions: The risk for cardiovascular disease and total mortality associated with hemoglobin A_{1c} concentrations increased continuously through the sample distribution. Most of the events in the sample occurred in persons with moderately elevated HbA_{1c} concentrations. These findings support the need for randomized trials of interventions to reduce hemoglobin A_{1c} concentrations in persons without diabetes.

Ann Intern Med. 2004;141:413-420. www.annals.org

For author affiliations, see end of text.

See related article on pp 421-431 and editorial comment on pp 475-476.

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persons without diabetes.

Ann Intern Med. 2004;141:413-420. www.annals.org

For author affiliations, see end of text.

See related article on pp 421-431 and editorial comment on pp 475-476.

Change in HbA_{1c} over 3 years does not improve the prediction of cardiovascular disease over and above HbA_{1c} measured at a single time point

P. Chamnan · R. K. Simmons · K. T. Khaw · N. J. Wareham · S. J. Griffin

Received: 7 August 2012 / Accepted: 21 January 2013 / Published online: 12 February 2013

Abstract

Aims/hypothesis HbA_{1c} is an important risk factor for cardiovascular disease (CVD), with 1% higher HbA_{1c} levels associated with a 10–20% increased risk of CVD. Little is known about the association between change in HbA_{1c} over time and cardiovascular risk in non-diabetic populations. This study examined the association between change in HbA_{1c} over time and cardiovascular risk in a non-diabetic British population.

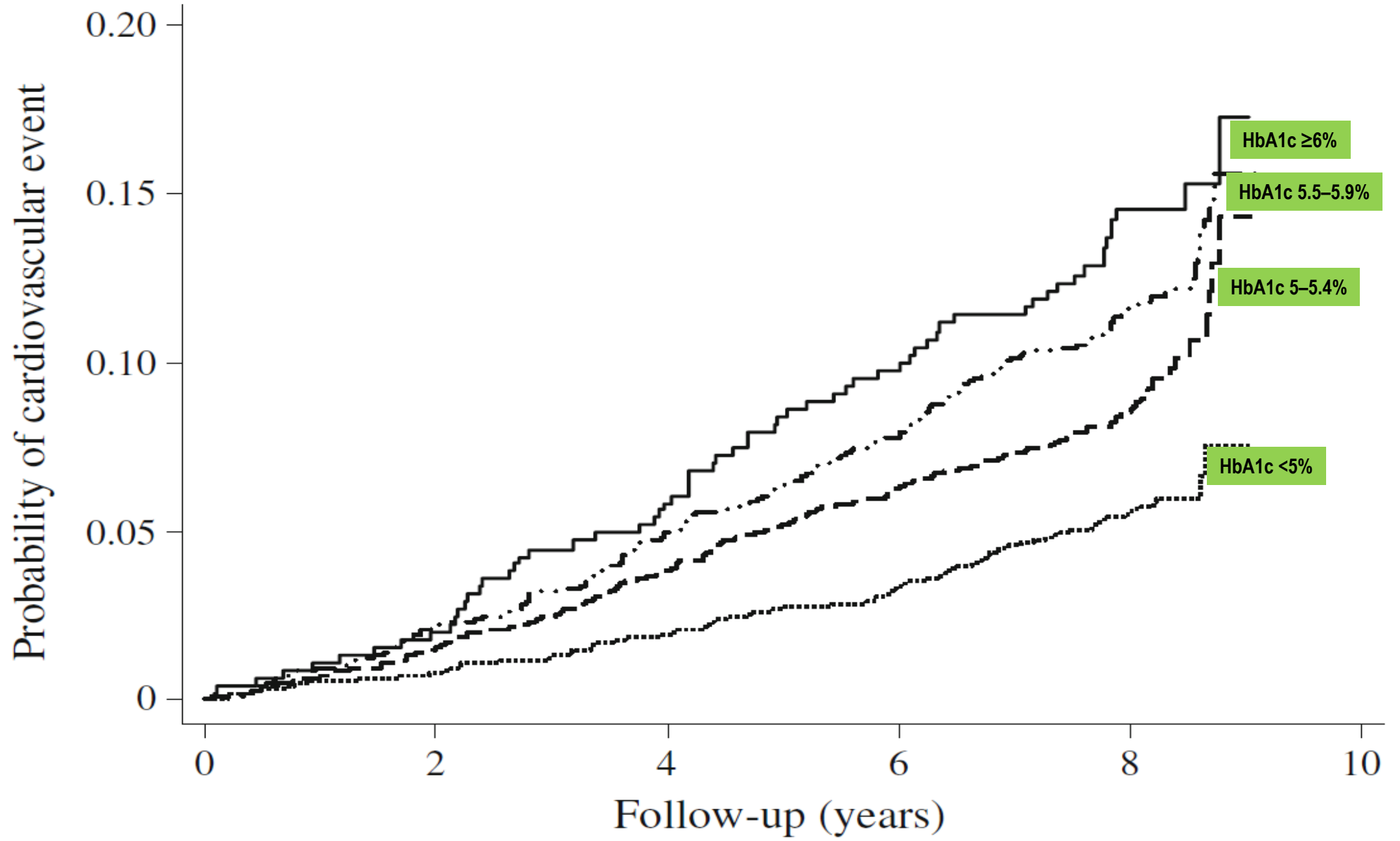
Methods We used data on HbA_{1c} collected at baseline and at a second health examination 3 years later among a population of 5,790 non-diabetic men and women who participated in the European Prospective Investigation of Cancer (EPIC)–Norfolk. The association between change in HbA_{1c} over 3 years and incident cardiovascular events over the following 8 years was examined using multivariate Cox regression. We also examined whether information on change in HbA_{1c} over time improved prediction of cardiovascular events over a single measure of HbA_{1c} by comparing the area under the receiver operating characteristic curves (aROC) and computing the net reclassification improvement.

Results The mean change (SD) in HbA_{1c} over 3 years was 0.13% (0.52). During 44,596 person-years of follow-up, 529 cardiovascular events occurred (incidence 11.9 per 1,000 person-years). Each 0.5% rise in HbA_{1c} over 3 years was associated with a 9% increase in risk of a cardiovascular event (HR 1.09; 95% CI 1.01, 1.18) after adjustment for baseline HbA_{1c} and other major cardiovascular risk factors. However, change in HbA_{1c} was not associated with cardiovascular risk after adjustment for HbA_{1c} at follow-up. Multivariate models with and without information on change in HbA_{1c} over time showed a similar aROC of 0.78. Adding change in HbA_{1c} to the model with HbA_{1c} at follow-up did not improve risk classification.

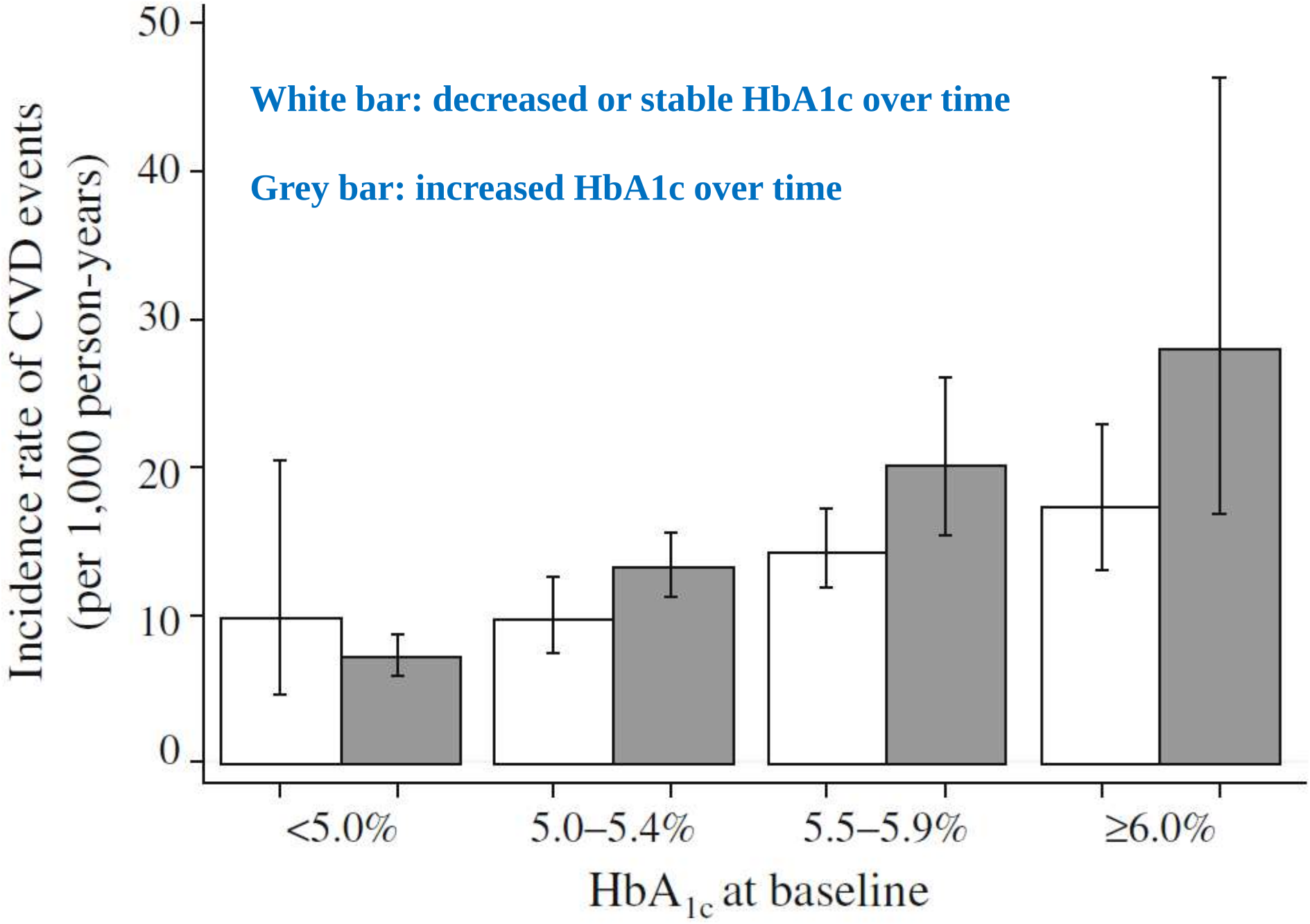
Conclusions/interpretation Addition of information on change in HbA_{1c} over 3 years did not improve the prediction of CVD over and above information on HbA_{1c} and other major cardiovascular risk factors from a single time point.

Keywords Cardiovascular disease · Discriminatory ability · Glycated haemoglobin (HbA_{1c}) · Net reclassification improvement · Prediction · Risk factors · Temporal change

Diabetologia (2013) 56:1004–1011



Diabetologia (2013) 56:1004–1011



Diabetologia (2013) 56:1004–1011

AKP 01
The second generation

Adisakwattana *et al. BMC Complementary and Alternative Medicine* 2012, **12**:110
http://www.biomedcentral.com/1472-6882/12/110

BMC
Complementary & Alternative Medicine

RESEARCH ARTICLE **Open Access**

In vitro inhibitory effects of plant-based foods and their combinations on intestinal α-glucosidase and pancreatic α-amylase

Sirichai Adisakwattana[1,2*], Thanyachanok Ruengsamran[3], Patcharaporn Kampa[3] and Weerachat Sompong[1,2]

«Il gelso bianco è dimostrato essere capace di inibire la alfa-amilasi pancreatica, l'enzima secreto dal nostro pancreas che taglia gli zuccheri complessi in zuccheri semplici, i quali sono maggiormente e più velocemente assorbibili dal nostro intestino»

AkP 01 Trial N°0

Proof of Concept

- **Double Blind Vs Armolipid Plus (10 pat. Vs 10 pat.)**
- **Patients with mild Dyslipidemia and/or statin intolerant**
- **3 weeks treatment**

High Blood Press Cardiovasc Prev
DOI 10.1007/s40292-015-0087-2

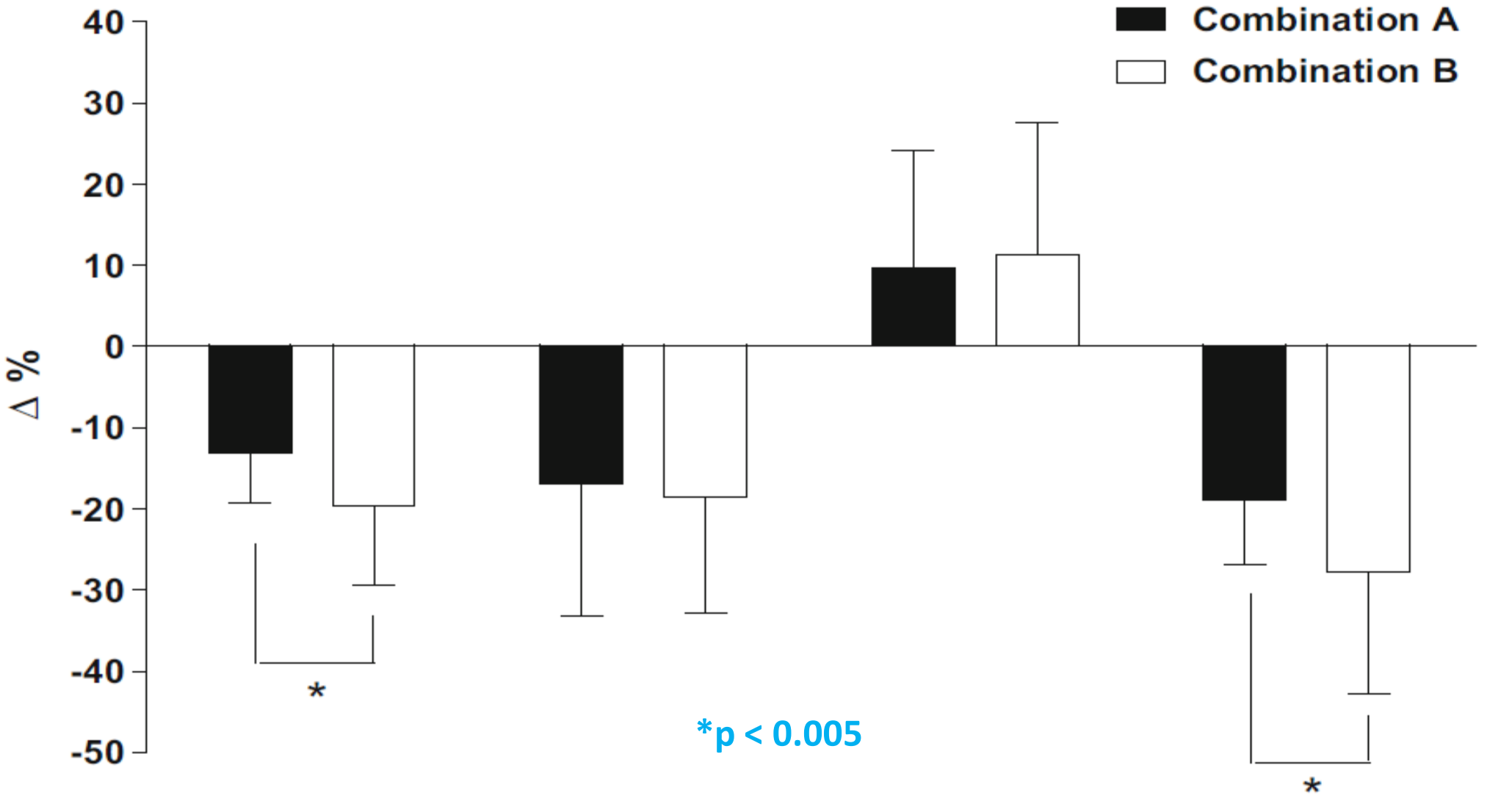
ORIGINAL ARTICLE

Effects of a New Combination of Nutraceuticals with *Morus alba* on Lipid Profile, Insulin Sensitivity and Endotelial Function in Dyslipidemic Subjects. A Cross-Over, Randomized, Double-Blind Trial

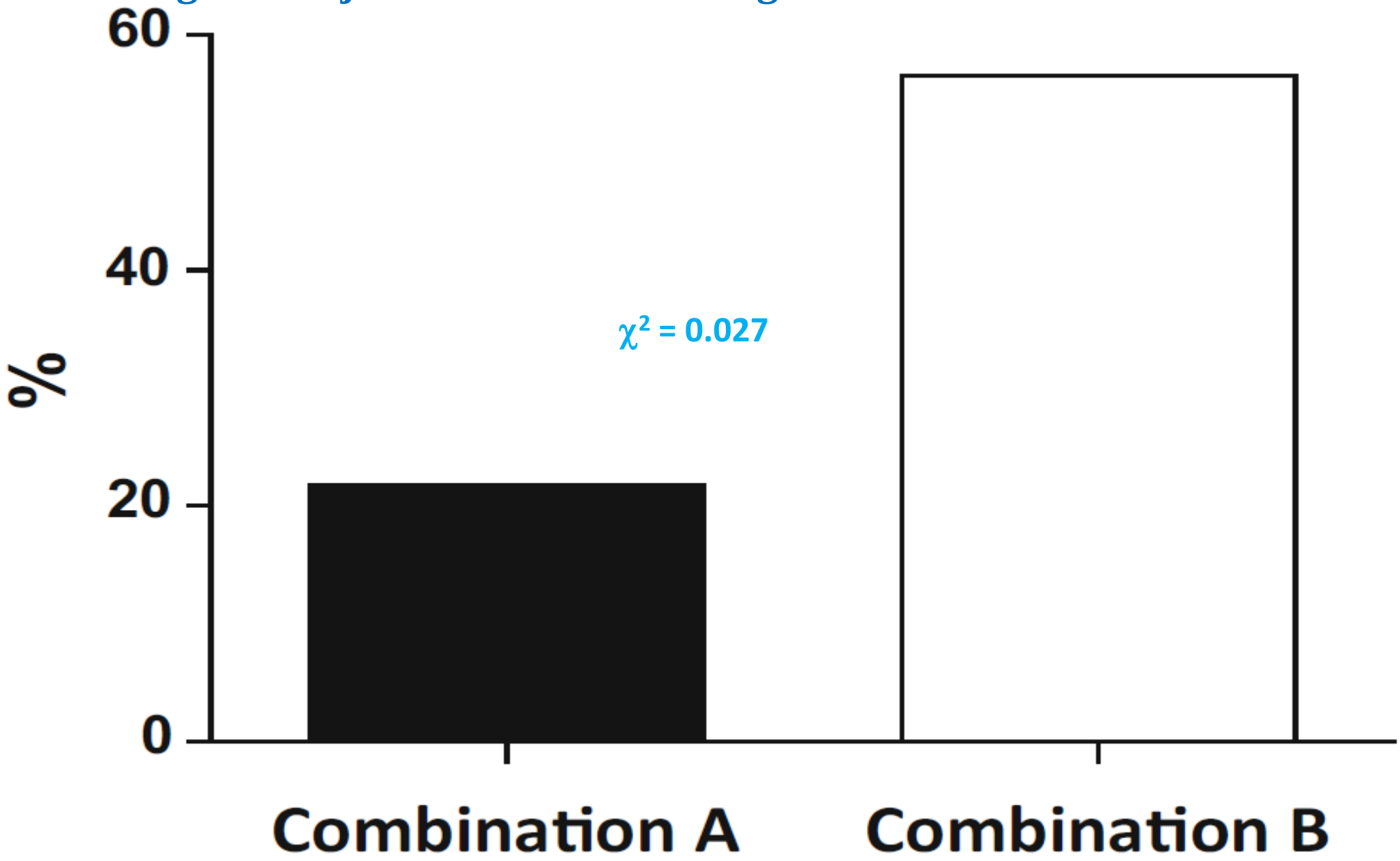
Valentina Trimarco[1,2] · Raffaele Izzo[2,3] · Eugenio Stabile[2,4] · Francesco Rozza[2] · Mario Santoro[2,3] · Maria Virginia Manzi[2,3] · Federica Serino[4] · Gabriele Giacomo Schiattarella[4] · Giovanni Esposito[2,4] · Bruno Trimarco[2,4]

Received: 11 February 2015 / Accepted: 3 April 2015

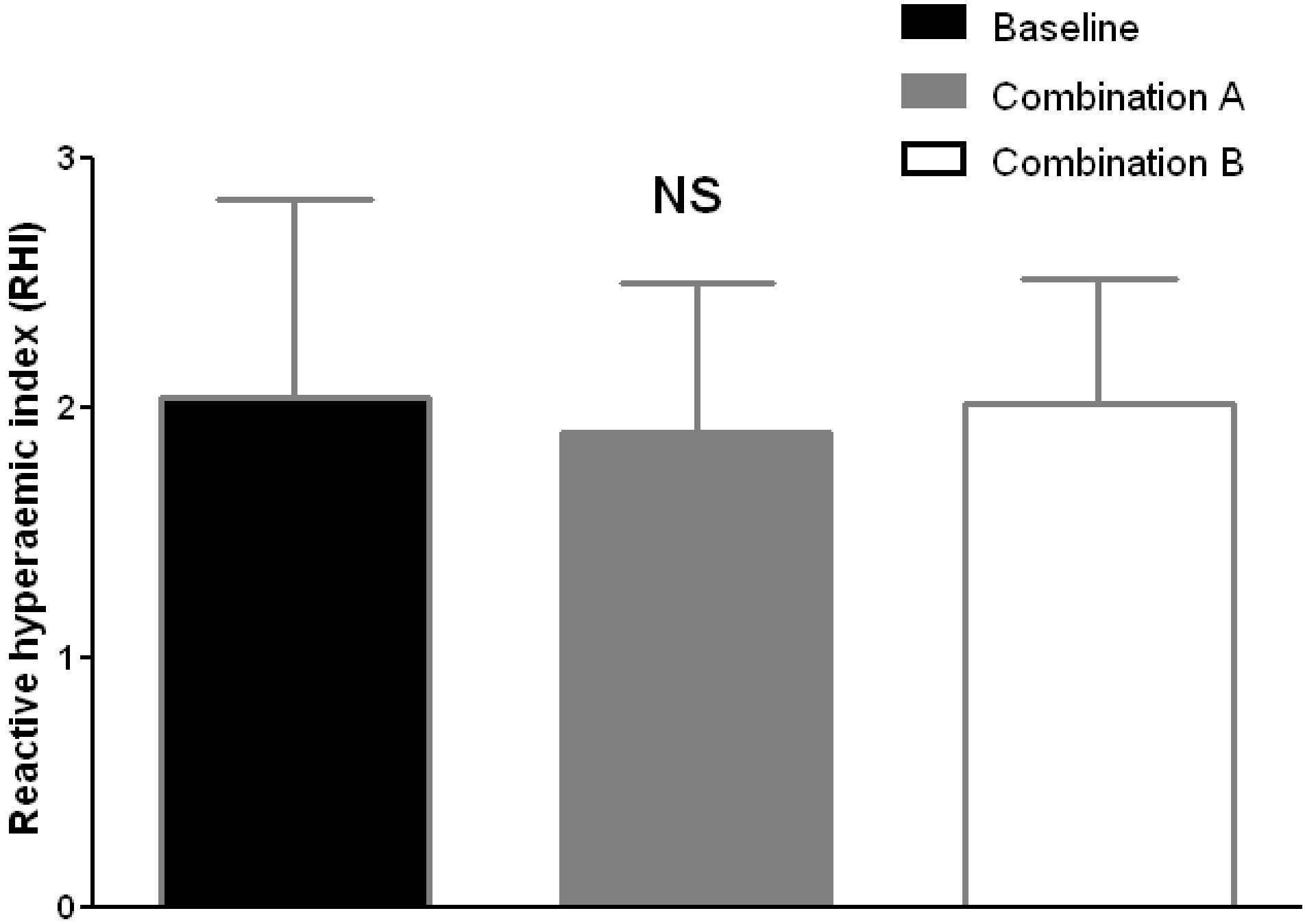
	N = 23
Age (year)	59.5 ± 6.3
Gender (M/W %)	48/52
SBP (mmHg)	142.5 ± 14.1
DBP (mmHg)	85.5 ± 10.9
Waist circumference (cm)	95.4 ± 9.4
Total cholesterol (mg/dl)	246.1 ± 15.1
HDL cholesterol (mg/dl)	47.4 ± 10.8
LDL cholesterol (mg/dl)	175.7 ± 13.4
Triglycerides (mg/dl)	114.9 ± 41.6
Fasting plasma glucose (mg/dl)	92.0 ± 7.53
BMI (Kg/m^2)	26.8 ± 3.6
HbA1c (%)	5.6 ± 0.4

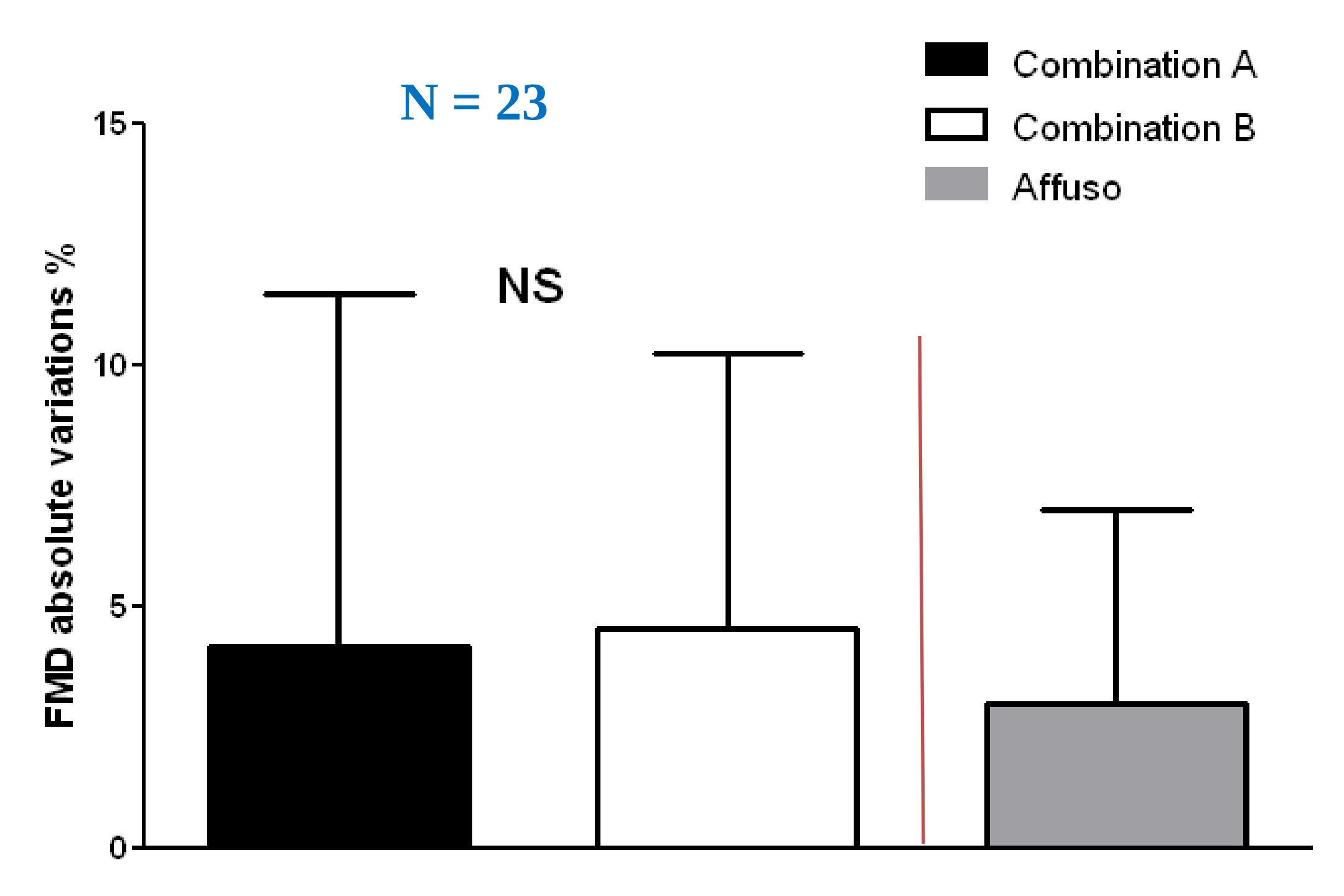

Combination A
Combination B
40
30
20
10
0
-10
-20
-30
-40
-50
Δ %
*
*
*p < 0.005
Total cholesterol
Triglycerides
HDL cholesterol
LDL cholesterol

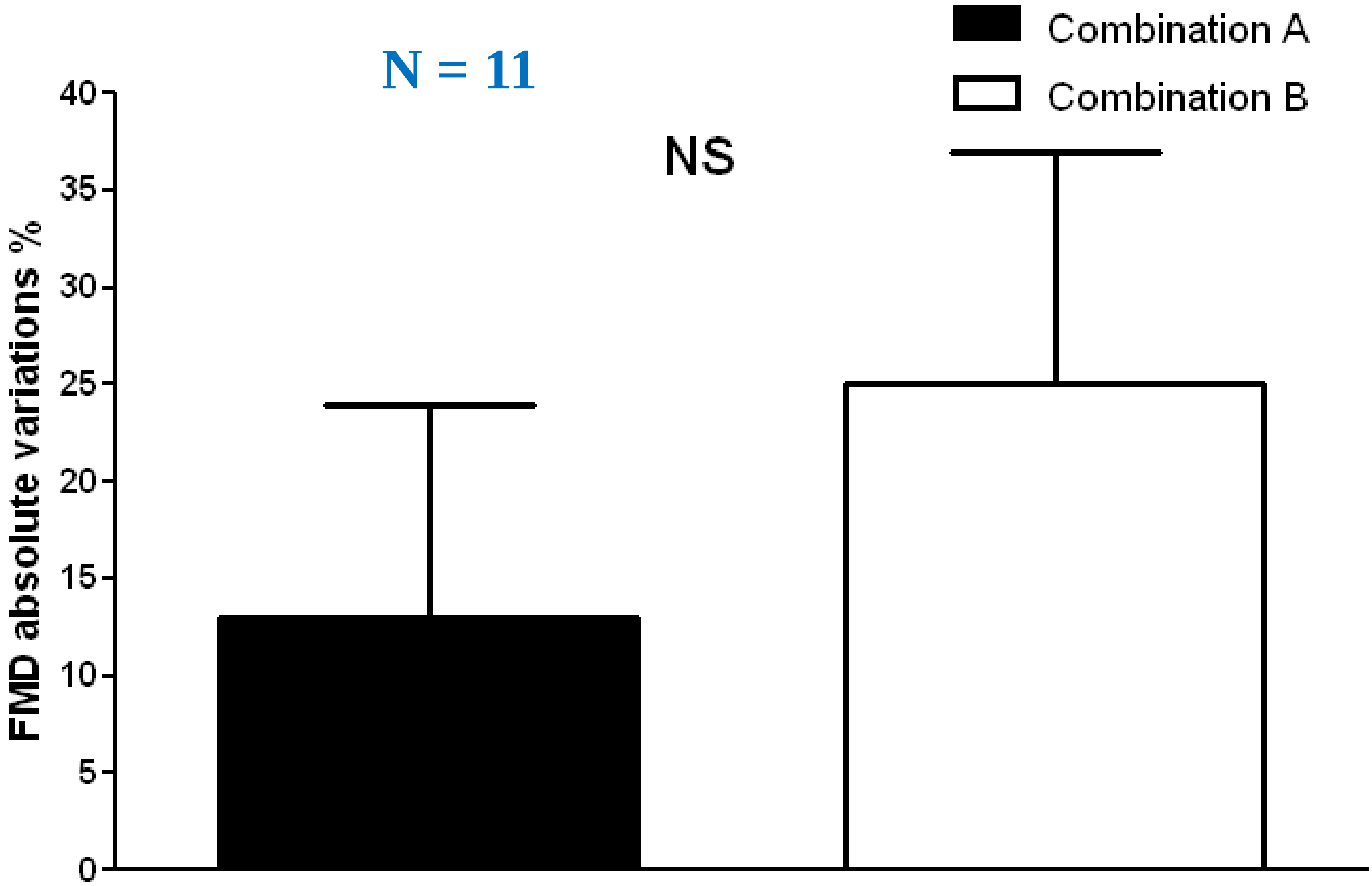
Percentage of subjects with LDL<130 mg/dl at the end of active treatment

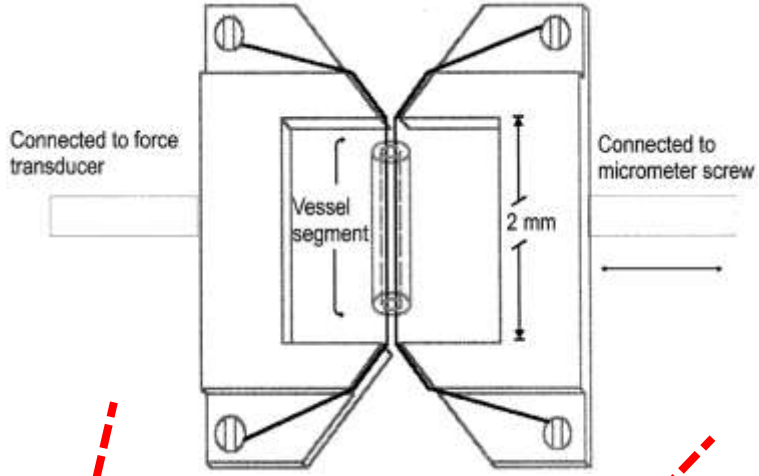


	Baseline	NUT A	NUT B	P < NUT A vs baseline	P < NUT B vs baseline	P < NUT B vs NUT A
Fasting plasma glucose (mg/dl)	92.00 ± 7.5	93.65 ± 13.7	84.35 ± 7.7	NS	0.0001	0.0001
Insulin (μU/ml)	10.1 ± 6.8	10.2 ± 6.6	7.9 ± 5.5	NS	0.006	0.02
HOMA index	2.33 ± 1.7	2.45 ± 1.7	1.66 ± 1.1	NS	0.006	0.002
HbA1c (mmol/mol)	38.00 ± 4.2	37.85 ± 4.1	37.22 ± 4.1	NS	0.002	0.03


Baseline
Combination A
Combination B
NS
Reactive hyperaemic index (RHI)
3
2
1
0

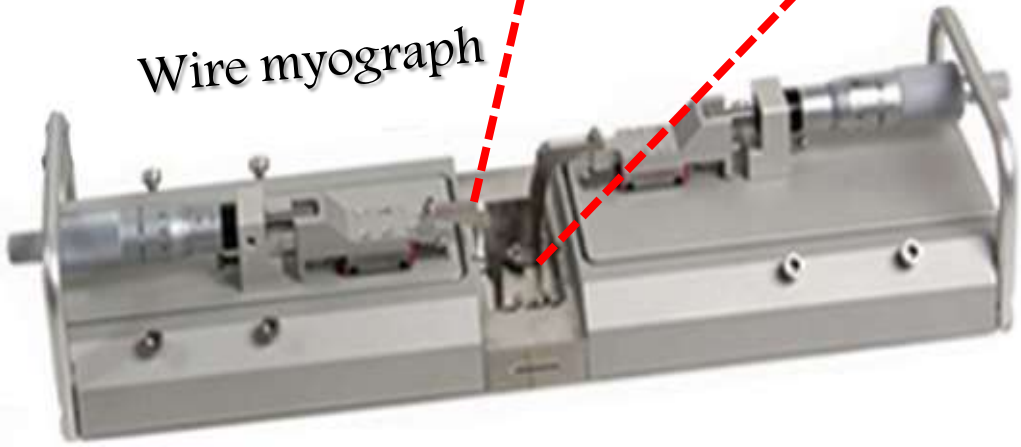

N = 23
Combination A
Combination B
Affuso
NS
FMD absolute variations %
15
10
5
0


N = 11
Combination A
Combination B
NS
FMD absolute variations %
40
35
30
25
20
15
10
5
0

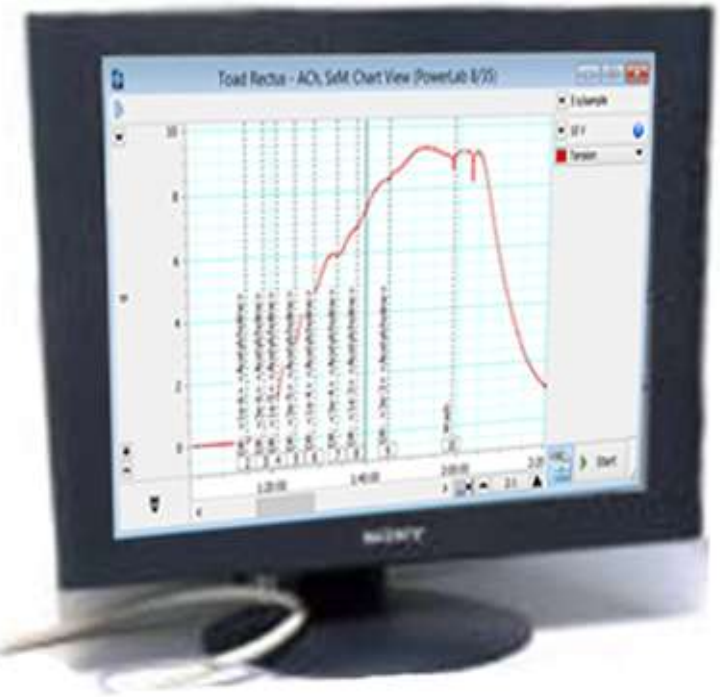


Force trasducer

Wire myograph



Graphical results

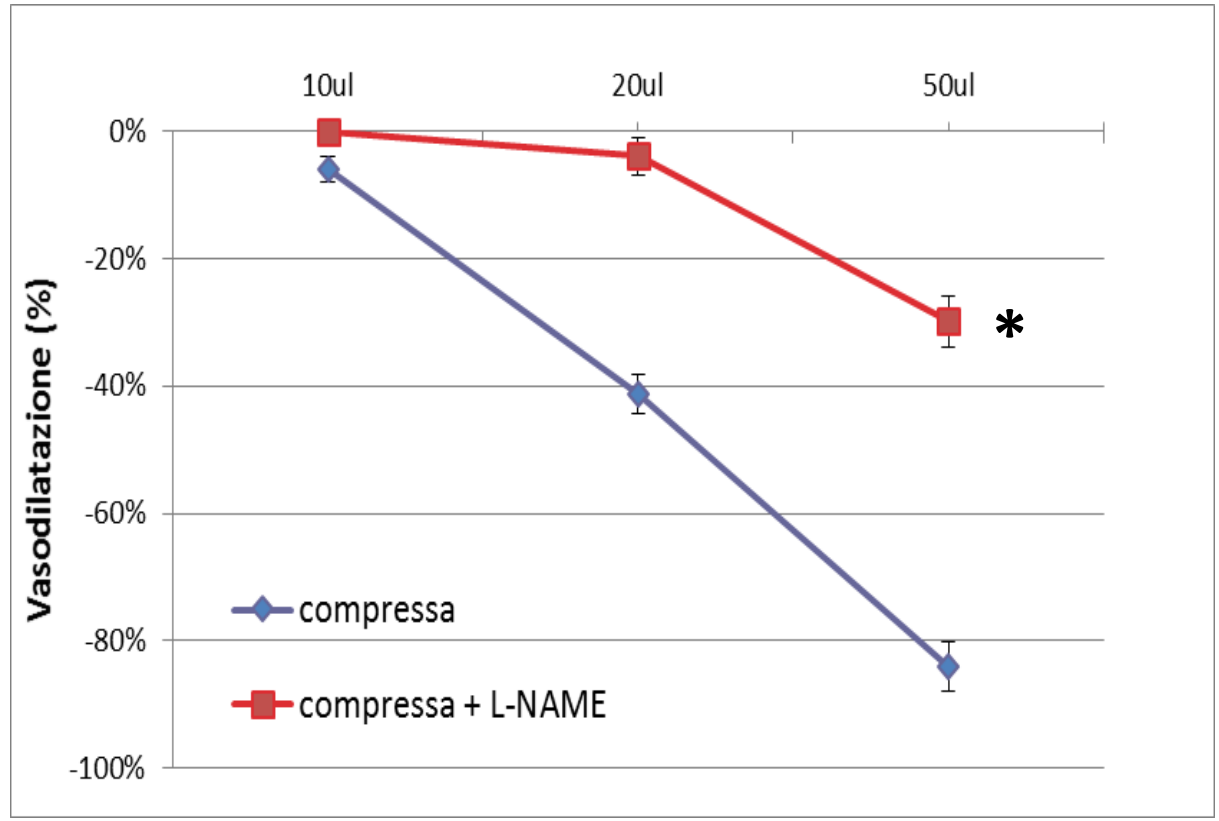


Composizione compressa

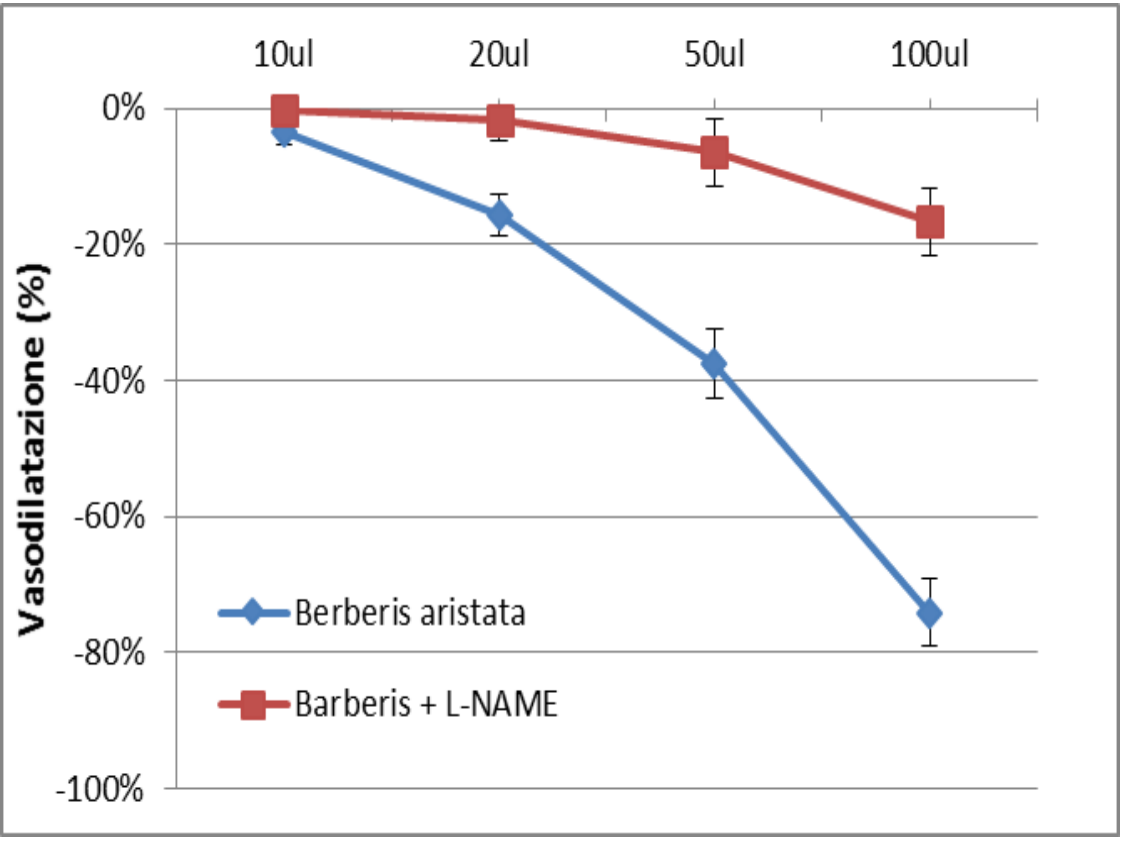
Estratto di Barberis aristata = 625 mg (85%)
Estratto di Morus Alba = 200 mg (2%)
Riso Rosso fermentato = 220 mg (1,5%)
+ Monacolina K = 3,3 mg

Effetto compressa

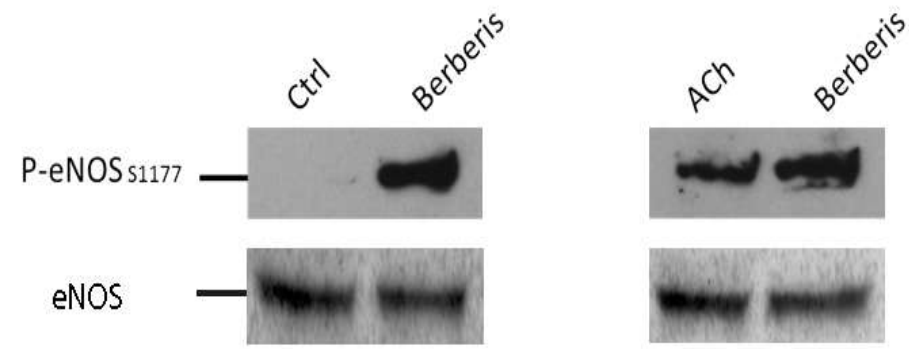
Diluizione 1:100



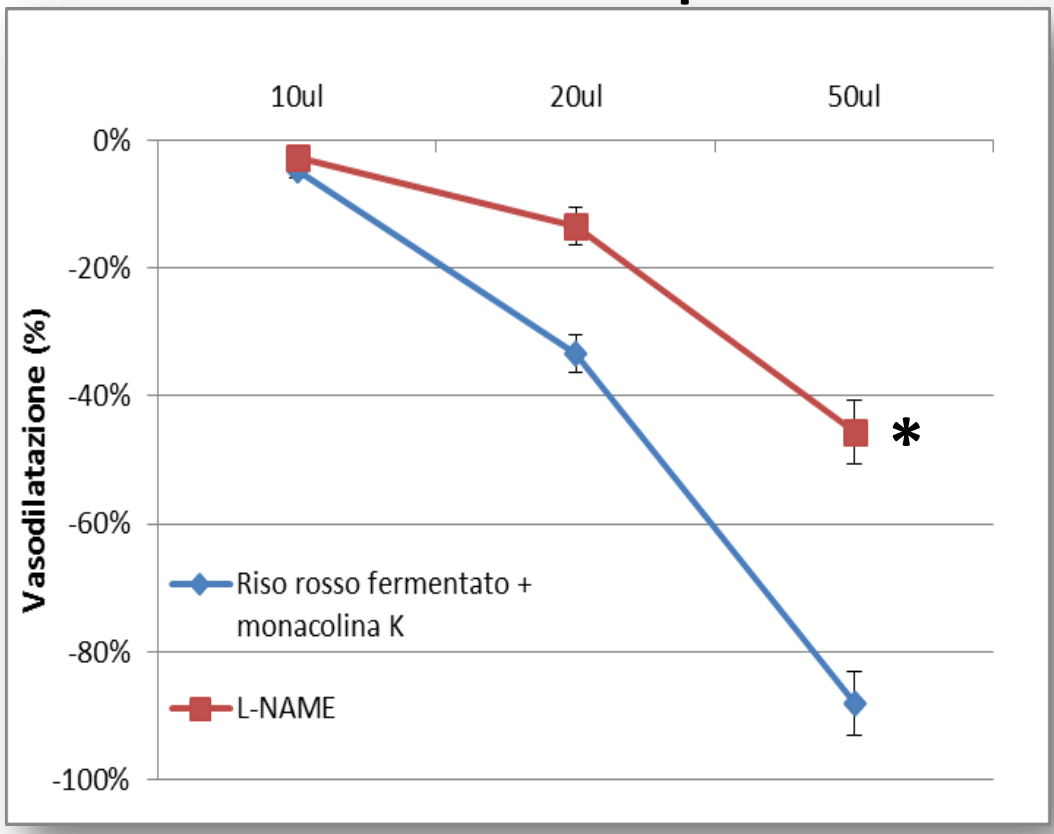
Diluizione 1:100

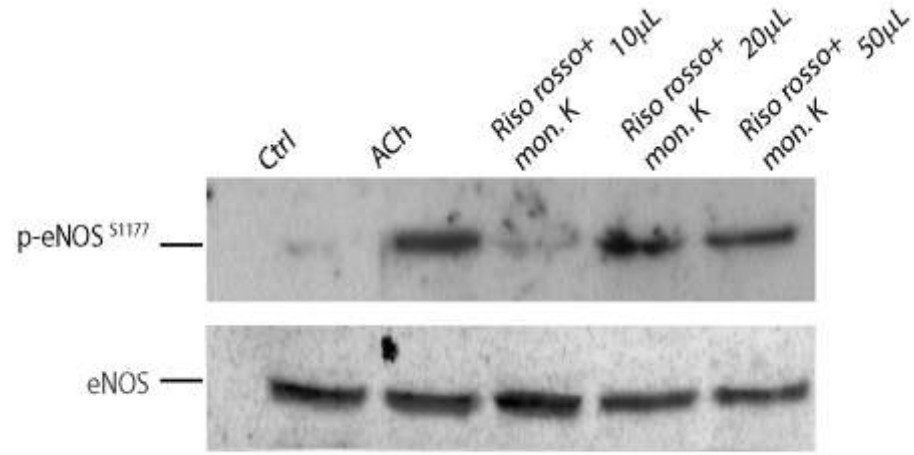


Western Blot



Utilizzando il quantitativo della capsula





Utilizzando il quantitativo della capsula