HABILITATION THESIS

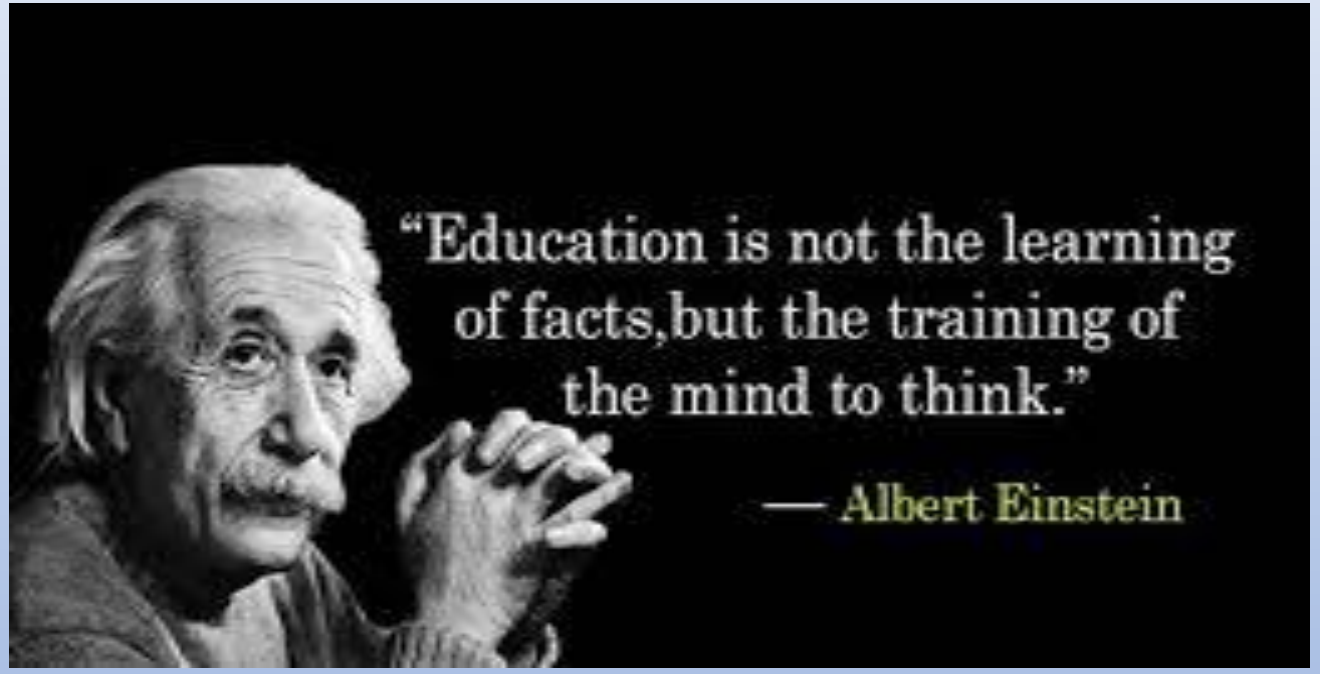
CARDIOVASCULAR PATHOLOGY FROM RESEARCH TO CLINICAL PRACTICE AND INTEGRATIVE MEDICINE

Assoc. Prof. ELENA BOBESCU

Universitatea Transilvania din Brașov

FACULTATEA DE MEDICINĂ

BRASOV 2021


"Education is not the learning
of facts,but the training of
the mind to think."
— Albert Einstein

SCIENTIFIC, PROFESSIONAL AND ACADEMIC ACHIEVEMENTS

1.PROFESSIONAL AND ACADEMIC ACHIEVEMENTS:

A. Career overview
B. PhD thesis and projects/grants
C. International recognition

2.SCIENTIFIC ACHIEVEMENTS:

A. Scientific achievements in the field of oxidative stress in cardiovascular pathology
B. Scientific achievements in the field of platelet reactivity in cardiovascular disease
C. Scientific achievements in the field of integrative medicine - natural compounds with antioxidant capacity
D. Scientific achievements in other cardiovascular related fields of research

3.SCIENTIFIC EVOLUTION AND DEVELOPEMENT PLANS:

A. Scientific developement plans in the field of oxidative stress
B. Scientific developement plans in the field of platelet reactivity
C. Scientific developement plans in the field of integrative medicine
D. Scientific developement plans in other related field of research
E. The estimated results of my scientific developement plans

SCIENTIFIC, PROFESSIONAL AND ACADEMIC EVOLUTION AND DEVELOPMENT PLANS

4.PROFESSIONAL AND ACADEMIC EVOLUTION AND DEVELOPEMENT PLANS:

REFERENCES

1. PROFESSIONAL AND ACADEMIC ACHIEVEMENTS:

A. Career overview

B. PhD thesis and projects/grants

C. International recognition

GENERAL CAREER OVERVIEW

Medical student **1988-1994**

Faculty of Medicine, Victor Babes University of Medicine and Pharmacy Timisoara

Transilvania University of Brasov

FACULTY OF MEDICINE

1996

PhD thesis

"Oxidative stress in acute coronary syndromes"

coordinator Prof. Dr. Georgeta Datcu

Order of the Minister of Education and Research no. 4871/07.08.2006.

University of Medicine and Pharmacy "Gr. T. Popa " Iasi

MEDICAL CAREER DEVELOPEMENT

Cardiology senior MD 2008

Internal medicine senior MD 2005

Cardiology MD 2004

Internal medicine MD 2000

ACADEMIC CAREER ACHIEVEMENTS

Associate Professor:
2009-present

Lecturer:
2008-2009

Assistant Professor:
2001 - 2008

University"Preparator":
1996 - 2001

PhD THESIS

"Oxidative stress in acute coronary syndromes"

The main objectives were:

- evaluation of **oxidative stress** in patients with acute and chronic coronary syndromes,
- monitoring the efficacy of metabolic agent **trimetazidine** in reduction of oxidative stress, inflammation and cardiovascular events (death, acute myocardial infarction, stroke) in 253 patients with acute and chronic coronary syndromes.

7 NATIONAL AND INTERNATIONAL PROJECTS/GRANTS

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NATIONAL

1. **Project won in national competition PN II- IDEI, Project code: ID_727 2008. *"Evaluation of the efficiency of therapeutic agents with complementary mechanisms to reduce oxidative stress, platelet activation and procoagulant status in acute coronary syndromes"* Project Director: Assoc. Prof. Elena Bobescu** Value: 1,000,000 RON.

2. **Tip A Grant CNCSIS 256 Contract Nr 3993-14.06.2000 - *Chlamydia pneumoniae infection as a risk factor in acute coronary syndromes, stroke and peripheric atherotrombotic occlusions.* Project Director: Prof. Mariana Rădoi; Elena Bobescu member in research team;**

3. **Excellence Research Program Project P-CD; nr2/CEEX-72/2006 – *Translation of Genomic Research intracardiac three-dimensional reconstruction in the diagnosis and treatment of congenital or acquired heart disease in adulthood*; Acronym –TRIDICO Project director: Prof. Imre Benedek, Elena Bobescu - member in research team** http://www.upm.ro/medicina/tridico

4. **Excellence Research Program Project P-CD; nr2/ CEEX-172/2006 *Translation of genomic research in developing innovative therapies based on stem cell transplantation in atherothrombotic diseases – study integrated into an European research experience of excellence*; Acronym – TRANSCARDIOSTEM; Project director: Prof. Imre Benedek, Elena Bobescu - member in research team; http://www.upm.ro/medicina/transcardiosem**

7 NATIONAL AND INTERNATIONAL PROJECTS/GRANTS

5. IMPACT Program, CERICARD Project 2007 - *Integrated research and management laboratory in heart failure*, project director Prof. Mariana Rădoi- Research program stopped at national level after the feasibility financing stage, Elena Bobescu member in research team;

INTERNATIONAL:

6. EUROPEAN UNIVERSITY - ENTERPRISE NETWORK. Socrates Erasmus Programme. Project No: Ref. 134546 - LLP -1-2007-1- RO – ERASMUS, Project Director Prof. Doru Talabă. Elena Bobescu member in research team, Transilvania University of Brasov.

7. Sectorial Operational Program "Increasing Economic Competitiveness" co-financed by the European Regional Development Fund "Investments for Your Future" HapticMed - Haptic Return Interfaces in Medical Applications Contract No. 128 / 2.06.2010, SMIS Code 12271, Project ID 567, Project Director Prof. Felix Hamza-Lup. Elena Bobescu- member in research team http://hapticmed.cerva.ro/ro/team/61-colaboratori--parteneri/18-elena-bobescuc.html

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23 CLINICAL INTERNATIONAL TRIAL PRINCIPAL INVESTIGATOR AND CO-INVESTIGATOR

1. **EPHESUS** Trial: Co Investigator 2000
2. **EPLA-0501-07** Co Investigator 2003
3. **Michelangelo Oasis 6** Co Investigator 2004
4. **RED-HF 20050222** Co Investigator 2006
5. **ExTRACT-TIMI 25** -Co Investigator 2007
6. **1235-SR-202-AF** PI 2007
7. **CORONA** PI 2007
8. **CVAH631 BRO 01** PI 2007
9. **JUPITER** PI 2006-2007.
10. **Safety and Tolerability of E5555** PI, 2008
11. **TAK-442_202** PI, 2008
12. **SIGNIFY** PI 2009
13. **CSPP 100A 2310** PI 2007
14. **TRILOGY ACS** PI 2007
15. **FERCARS-02** Co Investigator 2007
16. **IN-0401-INT** Co Investigator 2007
17. **F3Z-MC-IONM** Co Investigator 2007
18. **39039039AFL3001** PI 2009
19. **CRLX030A230A** PI
20. **PEGASUS-TIMI 54** Co investigator
21. **ENGAGE AF-TIMI 48** trial PI
22. **ATPCI** study – PI
23. **COMPASS** Trial – PI finished 2020

4 INTERNATIONAL REGIESTRES

1. International **REACH** Registry -REduction of Atherothrombosis for Continued Health (REACH) Registry. REACH enrolled 67 888 outpatients, 44 countries

2. Epicor Registry - **EPICOR** (NCT01171404) was a prospective, international, real-world cohort study patients hospitalized for ACS within 10 568 patients, 20 countries

3. **EORP-AF Pilot registry** - EURObservational Research Programme-Atrial Fibrillation General Registry Pilot Phase

4. **EORP-AF Long-Term General Registry** - EurObservational Research Programme – Atrial Fibrillation (EORP-AF) Long-Term General Registry analyzed consecutive 11 096 AF patients, 27 European countries.

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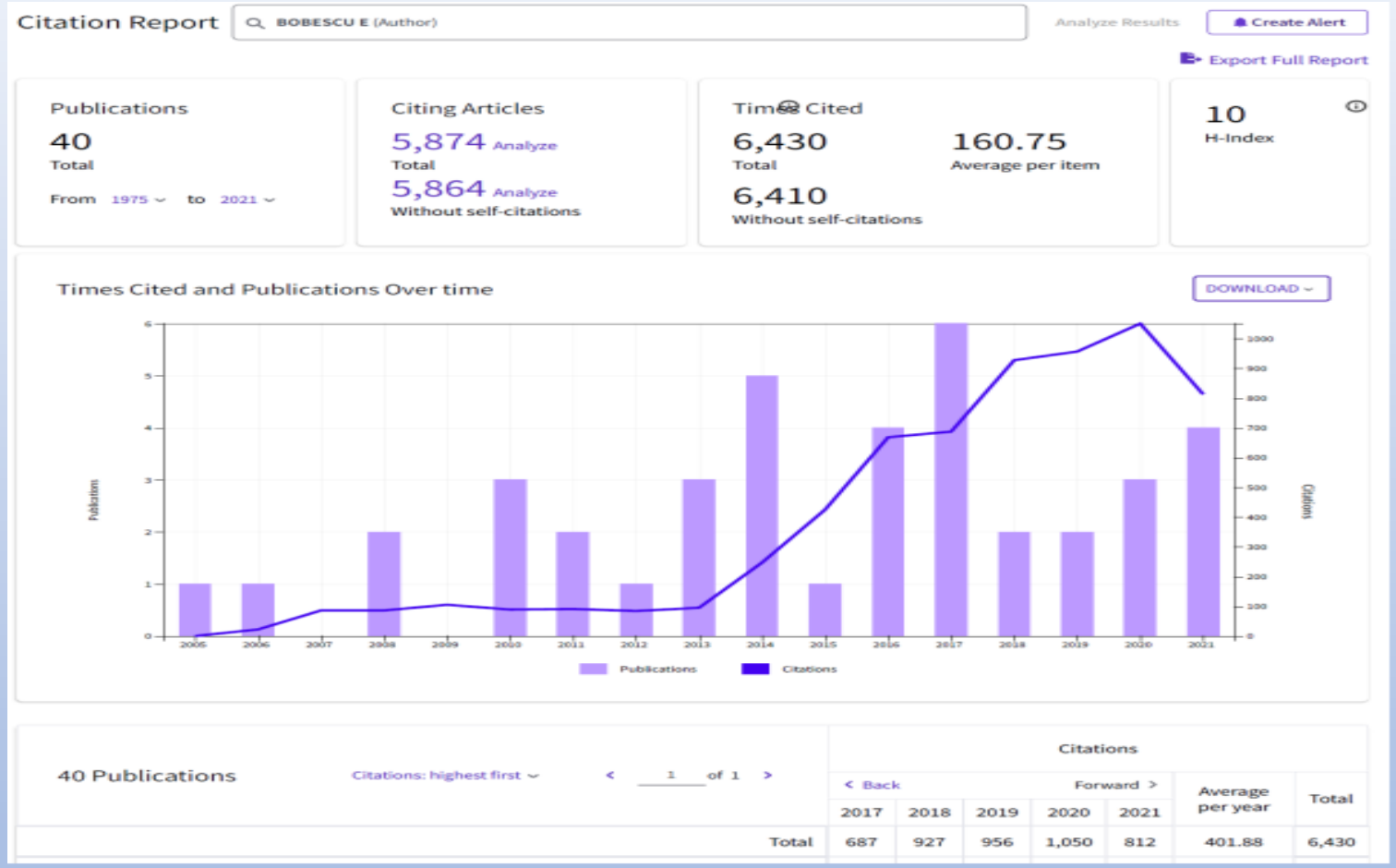
MY SCIENTIFIC RESULTS IN WEB OF SCIENCE



https://www-webofscience-com.am.e-nformation.ro/wos/woscc/citation-report/038a8690-eaf6-49fa-8b21-248c51be1d77-0396d89b

INTERNATIONAL RECOGNITION

Membership of international and national scientific societies:

- European Society of Cardiology,
- European Association of Echocardiography,
- European Heart Rhythm Association,
- Romanian Society of Cardiology.

Scientific reviewer in several international and national journals:

- American Journal of Therapeutics,
- Clinical Experimental Pharmacology and Physiology,
- Romanian Review of Laboratory Medicine,
- Bulletin of Transilvania University
- Braşov Medical Journal Review.

2. SCIENTIFIC ACHIEVEMENTS:

A. Scientific achievements in the field of oxidative stress in cardiovascular pathology

B. Scientific achievements in the field of platelet reactivity in cardiovascular disease

C. Scientific achievements in the field of integrative medicine - natural compounds with antioxidant capacity

D. Scientific achievements in other cardiovascular related fields of research

A. Scientific achievements in the field of oxidative stress in cardiovascular pathology

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Doctoral Thesis "Oxidative Stress In Acute Coronary Syndromes" , 2006

The main objective: evaluation of trimetazidine treatment efficacy in reduction of cardiovascular events (death, acute myocardial infarction, stroke) and in reduction of oxidative stress and inflammation in 253 patients with acute and chronic coronary syndromes.

In conclusion: after **2-year of follow-up** treatment with trimetazidine in patients with coronary syndrome:

- reduced inflammation and oxidative stress
- improved ECG changes and myocardial contractility
- reduced incidence of cardiovascular death, acute miocardial infarction and recurence of acute coronary syndromes.

The results of PhD Thesis were validated by:

- publishing a book in the field of oxidative stress
- scientific papers - published and communicated

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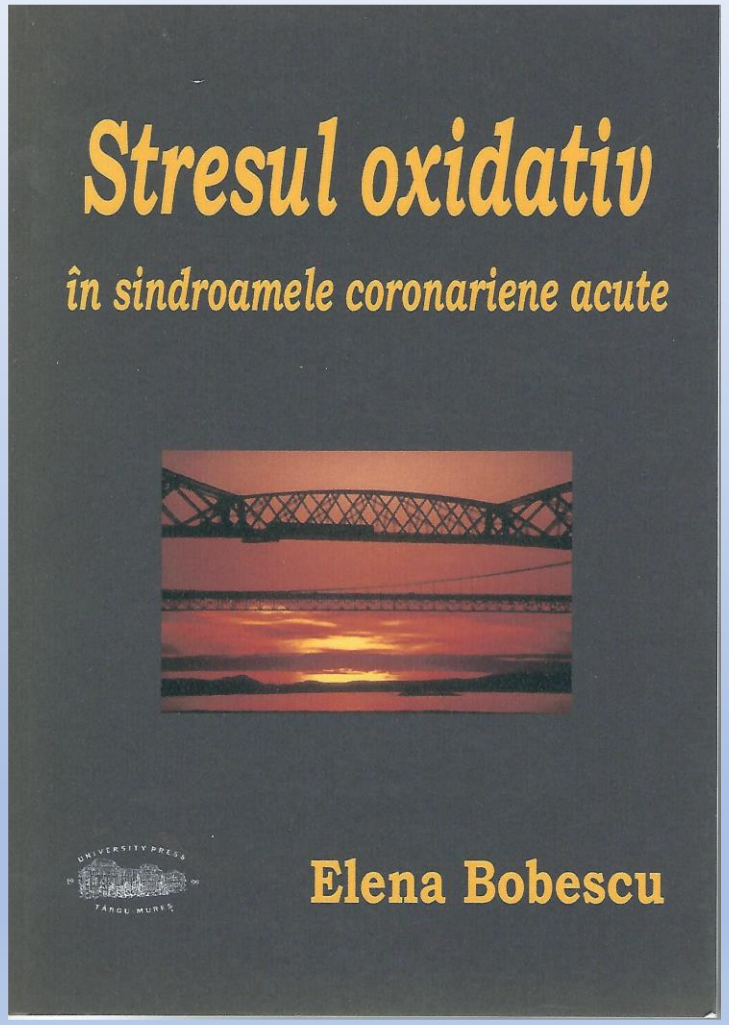

"Oxidative Stress In Acute Coronary Syndromes"

University Press Targu Mures, 2007

Oxidative stress definition: an imbalance between the production of reactive oxygen species (ROS), reactive nitrogen species (RNS) and antioxidant defense.

- Oxidative stress in human pathology

- Oxidative stress in atherosclerosis

- Oxidative theory in acute coronary syndromes

- Antioxidant and metabolic therapy in coronary syndromes

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Revista Română de Medicină de Laborator Vol. 8, Nr. 3, Septembrie 2007

Oxidative stress and antioxidant systems evaluation in cardiovascular disease

Elena Bobescu*

Universitatea „Transilvania" Braşov, Facultatea de Medicină, Catedra de medicină internă

This scientific paper represented a summary review of methods for assessing biomarkers of:

- **oxidative stress**

- **antioxidants depletion**

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Revista Română de Medicină de Laborator Vol. 9, Nr. 4, Decembrie 2007

Predictive value of risk factors, additional markers and efficacy of pharmacologic treatment in cardiovascular risk reduction in patients with coronary artery disease

Elena Bobescu[1,2*], Mariana Radoi[1,2], Georgeta Datcu[3], Zoltan Galajda[4], Antoniu Burducea[2], Carmen-Daniela Neculoiu[5], Roxana Bârsăşteanu[5], Dorina Popa[5], Valeria Paler[5], Delia Veştemean[5], Mirela Arsu[5], Mariana Anghel[5]

1. Universitatea "Transilvania"- Facultatea de Medicină Braşov, România
2. Spitalul Clinic Județean de Urgență, Clinica de Cardiologie Braşov, România
3. Universitatea de Medicină şi Farmacie "Gr. T. Popa", Spitalul Universitar "Sf. Spiridon", Clinica I Medicală Cardiologică "C.I.Negoiță", Iaşi, România
4. Institute of Cardiology, Cardiac Surgery Center, Medical and Health Science Center, University of Debrecen, Hungary
5. Spitalul Clinic Județean de Urgență, Laborator Clinic, Braşov, România

In 252 patients with CAD at **3 years of follow up**, an increased of cardiovascular risk (CVR) between **1.42- 2.11-** were associated with: diabetes mellitus (DM), ST segment depression, kinetics abnormalities, low EF of left ventricle and pathologic values of: Troponin T, CK-MB, C-reactive protein, fibrinogen, cholesterol (total, HDL, LDL), total antioxidant status (TAS) , anti ox-LDL antibody.

Therapeutic agents associated with cardiovascular risk reduction in CAD were: statin, clopidogrel, metoprolol, trimetazidine, ACEI (CVR=**0.39-0.64).**

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Revista Română de Medicină de Laborator Vol. 11, Nr. 2, Iunie 2008

Selective inhibition of long chain 3-ketoacyl-Coenzyme-A-thiolase by Trimetazidine MR in coronary heart disease induced reduction of inflammatory syndrome and oxidative stress in concordance with recovery of ECG and echocardiographic changes

Elena Bobescu[1,2*], Mariana Rădoi[1,2], Georgeta Datcu[3], Zoltan Galajda[4], Antoniu Burducea[2], Carmen-Daniela Neculoiu[5], Roxana Bârsăşteanu[5], Dorina Popa[5], Valeria Paler[5], Mariana Anghel[5]

1. "Transylvania" University- Faculty of Medicine, Brasov, Romania
2. Clinic County Emergency Hospital, Clinic of Cardiology, Brasov, Romania
3. University of Medicine and Pharmacy "Gr.T.Popa", University Hospital "Sf Spiridon", Medical and Cardiology Clinic I, "C.I.Negoita", Iasi, Romania
4. Institute of Cardiology, Cardiac Surgery Center, Medical and Health Science Center, University of Debrecen, Hungary
5. Clinic County Emergency Hospital, Clinic Laboratory, Brasov, Romania

The results of PhD thesis was followed at **3 years :** In 252 patients with coronary heart disease, treatment with trimetazidine was followed by a significant reduction in inflammatory syndromes (C-reactive protein, fibrinogen) and oxidative stress (low total antioxidant status, high anti ox-LDL antibody) in concordance with recovery of ECG and echocardiographic changes.

IN PATIENTS WITH NON-ST ACUTE CORONARY SYNDROME DIABETES MELLITUS AND METABOLIC SYNDROME HAVE AN IMPORTANT IMPACT ON PROGNOSIS, LEFT VENTRICULAR SYSTOLIC FUNCTION, INFLAMMATORY SYNDROME AND OXIDATIVE STRESS

Bobescu, E; Radoi, M; Galajda, Z; Datcu, G.
Bulletin of the Transilvania University of Brasov. Medical Sciences. Series VI; Brasov Vol. 1, (2008): 81-88.

In a subgroup of 172 patients with non ST acute coronary syndrome, metabolic syndrome or diabetes mellitus significant presence of higher incidence of inflammatory syndrome ($p<0.05$) and oxidative stress ($p<0.05$) were associated with a significant increased incidence of left ventricle systolic dysfunction ($p< 0.05$) **at 3 years of follow up.**

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American Journal of Therapeutics. 28(5):e540-e547, September/October 2021 Wolters Kluwer

Trimetazidine Therapy in Coronary Artery Disease: The Impact on Oxidative Stress, Inflammation, Endothelial Dysfunction, and Long-Term Prognosis

Elena Bobescu, MD, PhD,[1,3]* Luigi Geo Marceanu, MD, PhD,[1]
Lorena Dima, MD, PhD,[2] Andreea Balan, MD,[2]
Christian Gabriel Strempel, MD,[4] and Alexandru Covaciu, MD[1,3]

It was evaluated the impact of TMZ on top of OMT on oxidative stress (total antioxidant status-TAS, anti ox-LDL antibodies, anti Myeloperoxidase antibodies), endothelial dysfunction (flow mediated dilatation, von Willebrand factor activity), inflammation (C-reactive protein, fibrinogen) at 6 months and, the impact on long-term prognosis **in 570 pts with CAD**, in comparison with OMT alone **at 5 years of follow up.**

Table 4. Oxidative stress biomarkers.

	NSTE-ACS TMZ: 204	NSTE-ACS: 198	*P*	CCS TMZ: 79	CCS: 89	*P*
Baseline						
TAS <1.3 mmol/L	152 (74.5%)	146 (73.7%)	ns	31 (38.2%)	35 (39.3%)	ns
Antioxidized-LDL antibodies >150 UI/L	168 (82.4%)	155 (78.3%)	ns	33 (41.8%)	38 (42.7%)	ns
Anti-MPO antibodies IgG >20 U	50 (24.5%)	46 (23.2%)	ns	17 (21.5%)	21 (23.6%)	ns
At 6 mo						
TAS <1.3 mmol/L	45 (22.1%)	64 (32.3%)	<0.03	14 (17.7%)	30 (33.7%)	<0.02
Antioxidized-LDL antibody >150 UI/L	25 (12.3%)	41 (20.7%)	<0.02	7 (8.9%)	13 (14.6%)	0.25
Anti-MPO antibodies IgG >20 U	15 (7.4%)	25 (12.6%)	0.08	11 (13.9%)	14 (15.7%)	0.74

Antioxidized-LDL antibodies, antibodies against oxidized LDL cholesterol antibodies; anti-MPO IgG antibodies, anti-MPO immunoglobulins G antibodies; CCS TMZ, CCS with TMZ treatment in addition to OMT; CCS, CCS without TMZ treatment in addition to OMT; NSTE-ACS TMZ, NSTE-ACS with TMZ treatment in addition to OMT; NSTE-ACS, NSTE-ACS without TMZ treatment in addition to OMT.

Table 5. Endothelial dysfunction markers.

	NSTE-ACS TMZ: 204	NSTE-ACS: 198	*P*	CCS TMZ: 79	CCS: 89	*P*
Baseline						
FMV <4.5%	120 (58.8%)	112 (56.6%)	ns	30 (38%)	34 (38.2%)	ns
vWf activity >169.7%	124 (60.8%)	119 (60.1%)	ns	32 (40.5%)	36 (40.4%)	ns
At 6 mo						
FMV <4.5%	44 (21.6%)	65 (32.8%)	<0.02	12 (15.2%)	19 (21.3%)	0.30
vWf activity >169.7%	39 (19.1%)	58 (29.3%)	<0.02	14 (17.7%)	23 (25.8%)	0.20

CCS TMZ, CCS with TMZ treatment in addition to OMT; CCS, CCS without TMZ treatment in addition to OMT; NSTE-ACS TMZ, NSTE-ACS with TMZ treatment in addition to OMT; NSTE-ACS, NSTE-ACS without TMZ treatment in addition to OMT.

Table 6. Inflammatory markers.

	NSTE-ACS TMZ: 204	NSTE-ACS: 198	*P*	CCS TMZ: 79	CCS: 89	*P*
Baseline						
CRP >0.5 mg/dL	141 (69.1%)	136 (68.7%)	ns	20 (25.3%)	23 (25.8%)	ns
Fibrinogen >400 mg/dL	128 (62.7%)	121 (61.1%)	ns	19 (24.1%)	22 (24.7%)	ns
At 6 mo						
CRP >0.5 mg/dL	50 (24.5%)	68 (34.3%)	<0.03	14 (17.7%)	23 (25.8%)	0.30
Fibrinogen >400 mg/dL	19 (9.3%)	32 (16.2%)	<0.04	12 (15.2%)	19 (21.3%)	0.40

CCS TMZ, CCS with TMZ treatment in addition to OMT; CCS, CCS without TMZ treatment in addition to OMT; NSTE-ACS TMZ, NSTE-ACS with TMZ treatment in addition to OMT; NSTE-ACS, NSTE-ACS without TMZ treatment in addition to OMT.

Table 7. Clinical results at 5 years.

	NSTE-ACS TMZ: 204	NSTE-ACS: 198	*P*	CCS TMZ: 79	CCS: 89	*P*
CV death	16 (7.8%)	28 (14.1%)	<0.05	3 (3.8%)	9 (10.1%)	0.11
STEMI	25 (12.3%)	44 (22.2%)	<0.01	7 (8.9%)	14 (15.7%)	0.17
In stent thrombosis	5 (2.5%)	9 (4.5%)	0.25	1 (1.3%)	3 (3.4%)	0.37
In stent restenosis	21 (10.3%)	29 (14.6%)	0.19	5 (6.3%)	9 (10.1%)	0.38
Stroke	5 (2.5%)	14 (7.1%)	<0.05	1 (1.3%)	3 (3.4%)	0.37
Readmission for NSTE-ACS	35 (17.2%)	51 (25.8%)	<0.04	11 (13.9%)	24 (27%)	<0.04
Readmission for heart failure	29 (14.2%)	45 (22.7%)	<0.04	10 (12.3%)	22 (24.7%)	<0.05
Lost to follow-up	6 (2.9%)	7 (3.5%)	0.73	4 (5.1%)	3 (3.4%)	0.58

CCS TMZ, CCS with TMZ treatment in addition to OMT; CCS, CCS without TMZ treatment in addition to OMT; NSTE-ACS TMZ, NSTE-ACS with TMZ treatment in addition to OMT; NSTE-ACS, NSTE-ACS without TMZ treatment in addition to OMT.

B. Scientific achievements in the field of platelet reactivity in cardiovascular disease

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PROJECT CODE: ID_727 IDEI COMPETITION 2008

"EVALUATION OF THE EFFICIENCY OF THERAPEUTIC AGENTS WITH COMPLEMENTARY MECHANISMS TO REDUCE OXIDATIVE STRESS, PLATELET ACTIVATION AND PROCOAGULANT STATUS IN ACUTE CORONARY SYNDROMES"

Project Director: Assoc. Prof. Elena Bobescu; Project team members: Prof. Dr. Mariana Radoi, Dr. Horatiu Rus - experienced researchers, Gavris Claudia, Mirela Nan, Codrut Ciurea - PhD students.

Value: 1,000,000 RON. MINISTRY OF EDUCATION, RESEARCH AND INNOVATION. Contractor: Transilvania University of Brasov, Faculty of Medicine, Project duration: 3 years.

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PROJECT CODE: ID_727 IDEI COMPETITION 2008

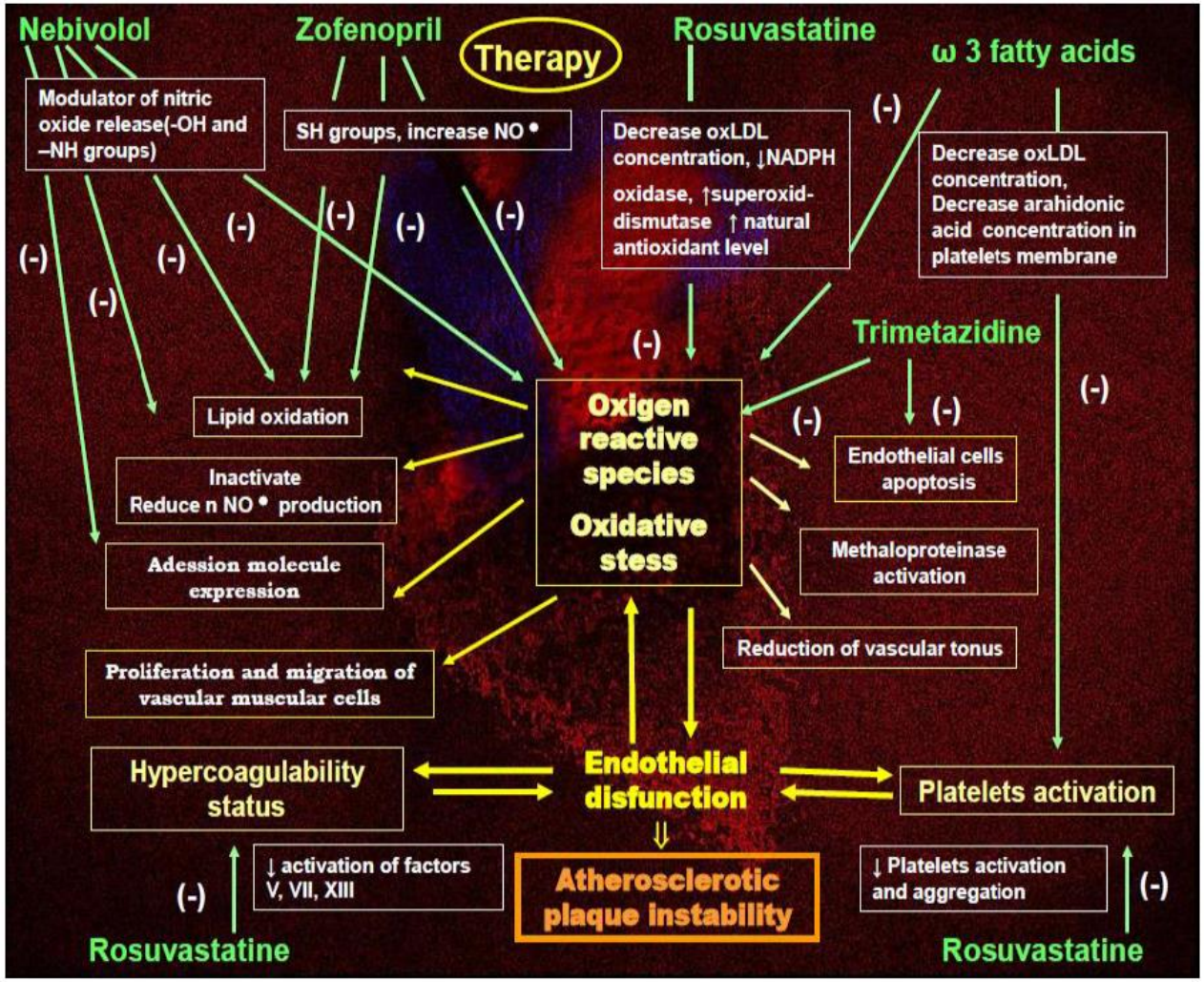

Figure 1: The role of therapeutic agents with complementary mechanisms in reduction of oxidative stress , platelets activation and procoagulant status on aherosclerotic plaque instability.

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PROJECT CODE: ID_727 IDEI COMPETITION 2008

This project was a prospective, open study on a group of **400 patients, with stable angina** as a control group**, unstable angina, acute myocardial infarction with and without ST segment elevation**

Follow up period: 2 years of clinical, biologic, ECG and echocardiographic evaluation.

Nebivolol, zofenopril, rosuvastatin, trimetazidine and omega-3 polyunsaturated fatty acids were analyzed as therapeutic agents with complementary mechanisms in reduction of oxidative stress, platelets reactivity and procoagulant status; on the other arm of study were the therapeutic agents without this proprieties.

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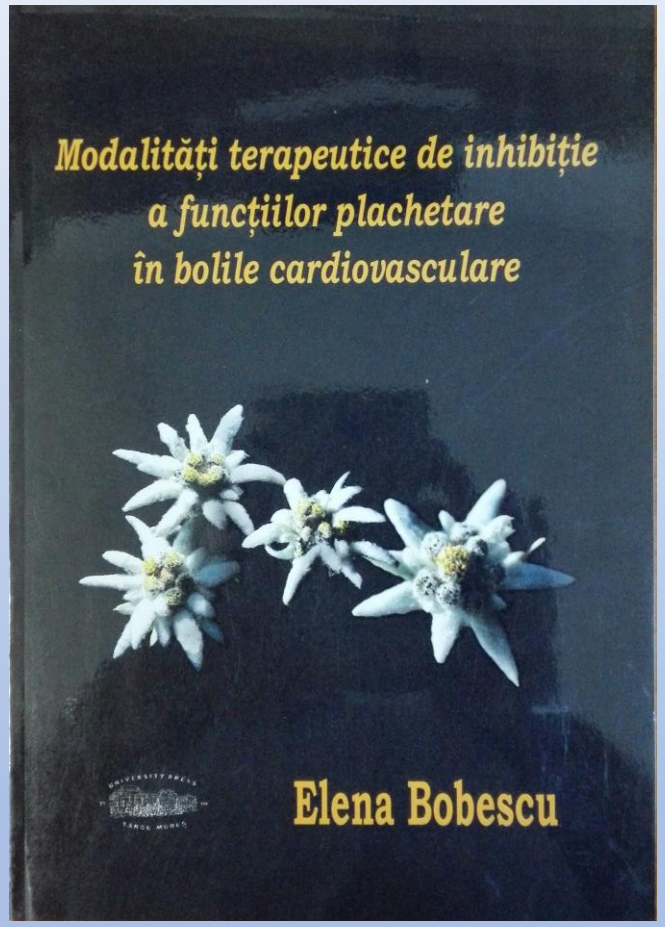
PROJECT CODE: ID_727 IDEI COMPETITION 2008

It was evaluated:

- incidence of cardiovascular old risk factors and new risk factors
- oxidative stress (total antioxidant status-TAS, anti ox-LDL antibodies, anti Myeloperoxidase antibodies),
- endothelial dysfunction (flow mediated dilatation, von Willebrand factor activity,
- inflammation (C-reactive protein, fibrinogen).
- high platelet reactivity (ASPItest, ADPtest by multiple electrode aggregometry, platelets count, mean platelet volume),
- procoagulant status (Von Willebrand factor activity , C,S protein, Antithrombin III, Factor V Leiden- APC Resistance V)

The results of this project were validated by:

- publishing a book in the field of platelet reactivity
- scientific papers - published and communicated



Therapeutic Modalities to Inhibit Platelet Function in Cardiovascular Disease.

University Press Targu Mures, 2009

- **Platelet reactivity in acute coronary syndromes**
- **Vascular endothelium and platelet reactivity**
- **Platelet functions**
- **Classification of platelet antagonists**

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Revista Română de Medicină de Laborator Vol. 13, Nr. 4, Decembrie 2008

Platelet function monitoring tests in the evaluation of platelet antagonists efficacy

Teste de monitorizare a funcției plachetare în evaluarea eficacității antagoniștilor plachetari

Elena Bobescu*

"Transylvania" University - Faculty of Medicine, Braşov, Romania
Clinic County Emergency Hospital, Clinic of Cardiology, Braşov, Romania

Platelet functions monitoring applications: surgery, haematology, in cardiovascular disease and research applications.

High spontaneous platelet reactivity, low response or resistance to anti-platelet drugs are risk factors for thromboembolic events.

Impedance aggregometry assay used in our research seems to be the best suited:

- analyses the platelet function in whole blood, similarly to in vivo conditions,
- it is sensitive for all platelet function inhibitors,
- is standardised and cost effective in comparison with other methods.

Evaluation of platelets hyperactivity, hypercoagulability status and oxidative stress biomarkers and outcomes in patients with acute coronary syndromes. Bobescu E et al

Results: **in 240 patients with non ST ACS** - a significant higher incidence of MACE were associated with:

- higher aggregation values: ASPItest (more than cut-off value 30 U) and ADPtest (more than cut-off value 50 U), higher mean platelet volume (more than 10 fl),
- higher von Willebrand factor activity (>169.7 %)
- lower values of Total antioxidant status (<1.3 mmol/l)

The incidence of **thrombophilia was very low in ACS** patients.

European Heart Journal Sep 2010: 31; Supplement 1: 971-972. IF=9,800.
ESC Congress Aug 28-Sep 01, 2010, Stockholm, Sweden.

The correlation between endothelial dysfunction, platelets hyperactivity, oxidative stress, heart failure readmission and left ventricular systolic dysfunction in acute coronary syndromes. Bobescu E et al

Complete the previous study **in 400 patients with stable angina, ST and non ST ACS** the same markers for endothelial dysfunction, platelets hyperactivity, oxidative stress were associated with significant increased incidence of left ventricular systolic dysfunction, significant higher a incidence of readmission for heart failure and recurrent angina with, cardiovascular death and nonfatal AMI, **at one year of follow up.**

European Journal of Heart Failure Supplements, Volume 10, Supplements 2, 2011, IF 2010 – 4,512, Heart Failure Congress 21 May -24 May Gothenburg, Sweden

Endothelial dysfunction, platelets hyperactivity and oxidative stress in correlation with outcomes and left ventricular systolic dysfunction in acute coronary syndromes Bobescu, E et al.

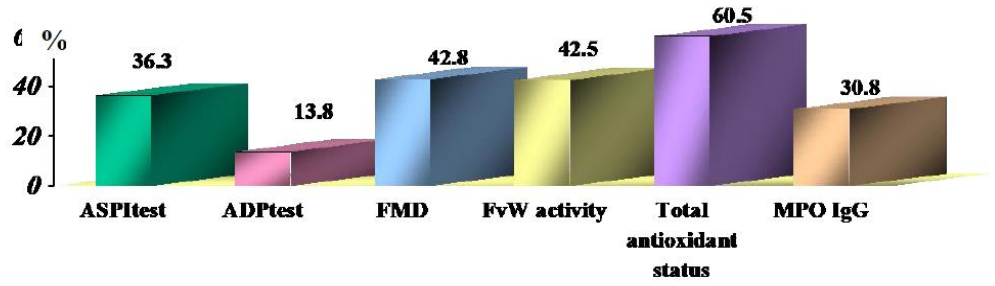

Figure 3: Incidence of endothelial dysfunction, platelets hyperactivity, oxidative stress biomarkers

Coronary Artery Disease: 2011 Update: From Prevention to Intervention. 2011:103-106. 9th International Congress on Coronary Artery Disease (ICCAD) Oct 23-26, 2011 Venice, Italy.

Table 4: Results at 2 years

	ASPItest>30U	ADPtest>50U	Flow mediated vasodilation < 4.5%	Von Willebrand factor activity >169.7%	Total antioxidant status < 1.3 mmol/l	Myeloperoxidase antibodies -MPO IgG ELISA>20 U
Patients	145(36.3%)	55(13.8%)	171(42.8%)	169(42.5%)	242(60.5%)	123(30.8%)
Cardiovascular death	25(17.2%) p<0.001	17(30.9%) p<0.001	26(15.2%) p<0.001	27(16%) p<0.001	27 (11.2%) p<0.001	21(17.1%) p<0.005
Nonfatal AMI	41(28.3%) p<0.001	23(41.8%) p<0.001	39(22.8%) p<0.001	41(24.3%) p<0.001	49(20.2%) p<0.001	31(25.2%) p<0.005
Stroke	8(5.5%) ns	5(9.1%) p<0,025	6(3.5%) ns	7(4.1%) ns	8(3.3%) ns	4(3.3%) ns
Heart failure with readmission	46(31.7%) p<0,025	22 (40%) p<0.001	65(38%) p<0.001	62(36.7%) p<0.001	68(28.1%) p<0.05	34(27.6%) ns
Recurrent angina with readmission	49(33.8%) p<0.001	25(45.5%) p<0.001	54(31.6%) p<0.001	51(30.2%) p<0.001	61(25.2%) p<0.05	41(33.3%) p<0.001
Ejection fraction < 40%	43(29.7%) p<0.01	18(32.7%) p<0.05	88(51.5%) p<0.001	83(49.1%) p<0.001	96(39.7%) p<0.001	37(30.1%) p<0.05

AMI= acute myocardial infarction; ADPtest = Adenosine diphosphate test; ASPItest = Aspirin test (by Multiplate®)

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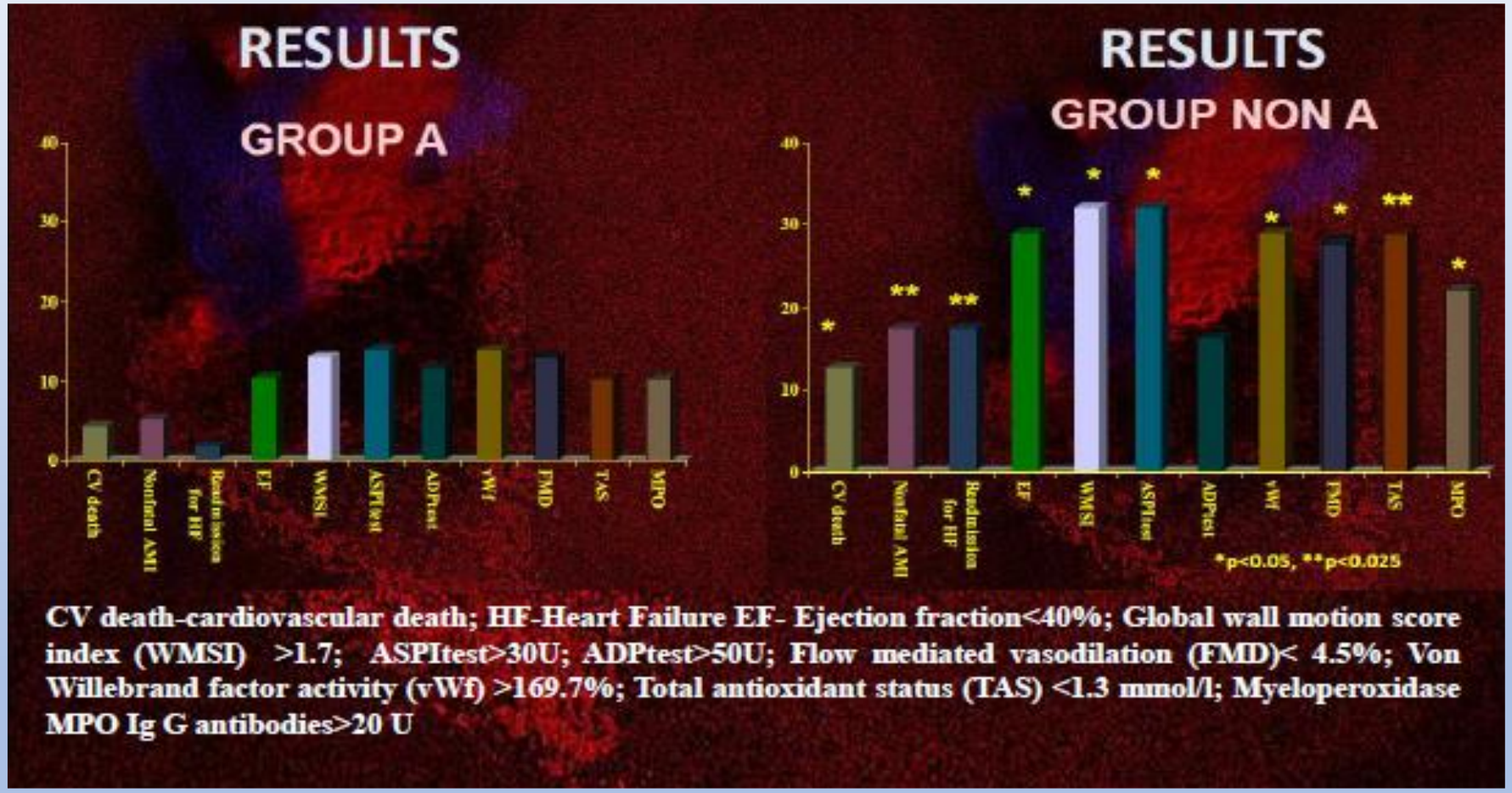
Drugs with effects in reduction of oxidative stress, platelets hyperactivity, hypercoagulability status and incidence of sudden death in ACS. Bobescu E et al

In 240 patients with ACS a significantly reduced incidence of *sudden cardiac death,* acute myocardial infarction, recurrent angina with readmission, low response to aspirin, high von Willebrand factor plasma value and low total antioxidant status serum values was observed in group treated with drugs with complementary mechanisms (**Nebivolol, Zofenopril, Rosuvastatin, Trimetazidine and Omega-3 polyunsaturated fatty acids)** in comparison with control group at 1 year of follow up.

CASD 001: FUNDAMENTAL & CLINICAL PHARMACOLOGY Dec 2011: 25; 6. IF=2,152. 2nd Conference on Cardiac Arrest and Sudden Death – Cardiovascular Therapy, June 16–18, 2011, Copenhagen, Denmark

Reduction of plaque instability biomarkers decreased left ventricular dysfunction and readmission for heart failure in acute coronary syndromes. Bobescu E et al



Results at 3 years in 240 pts with ACS, Group A 115 pts with complementary drugs, Group non A 125 pts without

European Journal of Heart Failure May 2013: 12; Supplement 1: S270-S270.
Heart Failure Congress, 25 28 May 2013 , Lisbon – Portugal.

Cardiovascular and renal protection decreased incidence of heart failure in coronary artery disease. Bobescu, E et al.

- **In 400 pts** with stable angina and non ST ACS treatment with drugs with complementary mechanisms was followed by significant reduction in incidence of readmission for heart failure, sudden cardiac death, cardiovascular death, nonfatal AMI, *improving of blood pressure control and renal function* in comparison with control group for **2 years of follow up .**
- Decreased incidence of oxidative stress, platelets hyperactivity and endothelial dysfunction in groups treated by drugs with mentioned effects was significantly correlated with reduced incidence of MACE.

EUROPEAN JOURNAL OF HEART FAILURE MAY 2014. 16, Supplement 2: 268-268, IF= 6,526
Heart Failure 2014 Congress Athens, Greece, 17-20 May 2014.

American Journal of Therapeutics. 26(5):e563-e569, September/October 2019 Wolters Kluwer

Correlation of Cardiovascular Risk Factors and Biomarkers With Platelet Reactivity in Coronary Artery Disease

Elena Bobescu, MD, PhD,[1,2] Alexandru Covaciu, MD,[1,3*]
Horatiu Rus, MD, PhD,[1,2] Mariana Radoi, MD, PhD,[1] Mihaela Badea, PhD,[4]
Silvia N. Moga, MD,[2,4] Valentina Benza, MD,[2] and Luigi G. Marceanu, MD, PhD[1]

In summary, in coronary artery disease (400 pts), high platelet reactivity biomarkers - high platelets mean volume, low response to aspirin and clopidogrel were closely interrelated.

A high incidence of **low response to aspirin** was observed STEMI 34.1%, NSTEMI 33.9%, UA 36.1% and stable angina 23.1%.

Low response to aspirin was significantly corelated with an age older than 65, smoking, diabetes mellitus, body mas index >25, high blood presure, previous aspirin treatment, low response to clopidogrel, high mean platelets volume, von Willebrand factor activity, low flow mediated vasodilation and total antioxidant status.

The incidence of thrombophilia was very low in CAD patients.

Table 8. Baseline biomarkers in STEMI and NSTEMI groups.

Biomarkers	STEMI ASPItest >30U n=28	STEMI ASPItest <30U n=54	p	NSTEMI ASPItest >30U n=40	NSTEMI ASPItest <30U n=78	p
Cholesterol>200mg/dl	21(75%)	30(55.6%)	*0.0850*	30(75%)	43(55.1%)	0.0354
LDL cholesterol>130mg/dl	19(67.9%)	30(55.6%)	*0.2813*	31(77.5%)	43(55.1%)	0.0173
HDL cholesterol<40mg/dl	20(71.4%)	34(63%)	*0.4433*	31(77.5%)	40(51.3%)	0.0058
Triglycerides>200mg/dl	12(42.9%)	24(44.4%)	*0.8907*	16(40%)	33(42.3%)	*0.8097*
Troponin T > 0,1ng/ml	27(96.4%)	52(96.3%)	*0.9758*	36(90%)	72(92.3%)	*0.6700*
CK-MB > 24U/l	25(89.3%)	50(92.6%)	*0.6113*	34(85%)	68(87.2%)	*0.7434*
ADPtest>46 U	10(35.7%)	5(9.3%)	0.0329	10(25%)	6(7.7%)	0.0093
Platelets volume >11 fl	18(64.3%)	16(29.6%)	0.0025	27(67.5%)	22(28.2%)	0.0004
Flow mediated vasodilation <4.5%	18(64.3%)	15(27.8%)	0.0013	27(67.5%)	24(30.8%)	0.05
von Willebrand factor activity >169.7%.	17(60.7%)	13(24.1%)	0.0108	25(62.5%)	21(26.9%)	0.0001
S Protein <72.2%	1(3.6%)	1(1.9%)	*0.6321*	1(2.5%)	-	-
C Protein <70%,	1(3.6%)	-	-	1(2.5%)	1(1.3%)	*0.6275*
Antithrombin III <71%,	1(3.6%)	1(1.9%)	*0.6321*	2(5%)	1(1.3%)	*0.2245*
V Factor Leiden Resistance to APC <2.18	-	-	-	1(2.5%)	-	-
Total antioxidant status< 1.3 mmol/l,	18(64.3%)	17(31.4%)	0.0044	28(70%)	21(26.9%)	0.00007
Anti Myeloperoxidase antibodies -MPO IgG >20 U	7(25%)	8(14.8%)	*0.2579*	8(20%)	10(12.8%)	0.3045

ADPtest = adenosine diphosphate test; ASPItest = Aspirin test; APC = activated protein C; CK-MB = Creatine Kinase, Muscle and Brain *(subunits);* HDL cholesterol = High-density lipoprotein cholesterol; LDL cholesterol = Low-density lipoprotein cholesterol; MPO = Myeloperoxidase; STEMI- non ST elevation myocardial infarction; NSTEMI- non ST elevation myocardial infarction

Table 9. Baseline biomarkers in UA and SA groups

Biomarkers	UA ASPItest >30U n=44	UA ASPItest <30U n=78	p	SA ASPItest >30U n=18	SA ASPItest <30U n=60	p
Cholesterol>200mg/dl	33(75%)	43(55.1%)	0.0296	12(66.7%)	39(65%)	*0.8462*
LDL cholesterol>130mg/dl	34(77.3%)	42(53.8%)	*0.2408*	12(66.7%)	39(65%)	*0.3466*
HDL cholesterol<40mg/dl	34(77.3%)	43(55.1%)	0.0149	12(66.7%)	39(65%)	*0.9335*
Triglycerides>200mg/dl	18(40.9%)	34(43.6%)	*0.7737*	8(44.4%)	20(33.3%)	0.3887
ADPtest>46 U	9(20.5%)	6(7.8%)	0.0392	5(27.8%)	4(6.7%)	0.0139
Platelets volume >11 fl	25(56.8%)	15(19.2%)	0.0002	8(44.4%)	10(16.7%)	0.0141
Flow mediated vasodilation <4.5%	30(68.2%)	20(25.6%)	0.00004	12(66.7%)	19(31.7%)	0.0077
von Willebrand factor activity >169.7%.	17(60.7%)	14(17.9%)	0.0117	11(61.1%)	13(21.7%)	0.0047
S Protein <72.2%	1(2.3%)	1(1.3%)	*0.6790*	-	-	-
C Protein <70%,	1(2,3%)	-	-	-	-	-
Antithrombin III <71%,	1(2.3%)	1(1.3%)	*0.6790*	-	1(1.7%)	-
V Factor (Leiden) Resistance to APC <2.18	-	-	-	-	-	-
Total antioxidant status< 1.3 mmol/l,	21(47.7%)	15(19.2%)	0.0092	7(38.9%)	10(16.7%)	0.0451
Anti Myeloperoxidase antibodies -MPO IgG >20 U	10(22.7%)	10(12.8%)	*0.1558*	2(11.1%)	5(8.3%)	*0.7176*

ADPtest = adenosine diphosphate test; ASPItest = Aspirin test; APC = activated protein C; CK-MB = Creatine Kinase, Muscle and Brain *(subunits);* HDL cholesterol = High-density lipoprotein cholesterol; LDL cholesterol = Low-density lipoprotein cholesterol; MPO = Myeloperoxidase; SA = stable angina; UA = unstable angina

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American Journal of Therapeutics. 27(2):e133-e141, March/April 2020
Wolters Kluwer

Low Response to Clopidogrel in Coronary Artery Disease

Elena Bobescu, MD, PhD,[1,2] Alexandru Covaciu, MD,[1,3]*
Horatiu Rus, MD, PhD,[1,2] Liliana Marcela Rogozea, MD, PhD,[4]
Mihaela Badea, PhD,[4] and Luigi Geo Marceanu, MD, PhD[1]

It was observed a high incidence of **low response to clopidogrel** in patients STEMI 25.6%, NSTEMI 23.1%, UA 23.2% and stable angina 18.2%.

Low response to clopidogrel was significantly corelated with an age older than 65, smoking, diabetes mellitus, body mas index >25, high blood pressure, previous aspirin treatment, low response to clopidogrel, high mean platelets volume, von Willebrand factor activity, low flow mediated vasodilation, total antioxidant status, *high value of total, LDL cholesterol and low HDL cholesterol*

Table 3. Baseline biomarkers in STEMI and NSTEMI groups.

	STEMI			NSTEMI		
	82			108		
Total	STEMI, ADPtest >46 U, n = 21 (25.6%)	STEMI, ADPtest <46 U, n = 61 (74.4%)	*P*	NSTEMI, ADPtest >46 U, n = 25 (23.1%)	NSTEMI, ADPtest <46 U, n = 93 (76.9%)	*P*
Cholesterol >200 mg/dL	16 (76.2%)	28 (45.9%)	0.05	18 (72%)	33 (35.5%)	0.01
LDL cholesterol >100 mg/dL	14 (66.7%)	23 (37.7%)	0.05	19 (76%)	40 (43%)	0.01
HDL cholesterol <40 mg/dL	15 (71.4%)	27 (44.3%)	0.05	19 (76%)	43 (46.2%)	0.05
Triglycerides >200 mg/dL	9 (42.9%)	27 (44.3%)	NS	10 (40%)	40 (43%)	NS
Troponin T > 0.1 ng/mL	20 (95.2%)	59 (96.7%)	NS	23 (92%)	90 (96.8%)	NS
CK-MB > 24U/l	19 (90.5%)	56 (93.3%)	NS	22 (88%)	86 (92.5%)	NS
ASPItest >30 U	7 (33.3%)	6 (9.8%)	0.025	7 (28%)	8 (8.6%)	0.05
Platelets volume >11 fL	14 (66.7%)	15 (27.8%)	0.001	17 (68%)	28 (30.1%)	0.05
Flow-mediated vasodilation <4.5%	13 (61.9%)	15 (27.8%)	0.001	17 (68%)	28 (30.1%)	0.05
Von Willebrand factor activity >169.7%.	12 (57.1%)	13 (24.6%)	0.01	16 (64%)	30 (32.3%)	0.01
S protein <72.2%	1 (4.8%)	1 (1.6%)		1 (4%)	—	—
C protein <70%,	1 (4.8%)	—	—	1 (4%)	2 (2.2%)	NS
Antithrombin III <71%,	1 (4.8%)	1 (1.6%)	NS	2 (8%)	2 (2.2%)	NS
V factor Leiden resistance to APC <2.18	1 (4.8%)	2 (3.2%)	NS	2 (8%)	2 (2.2%)	NS
Total antioxidant status < 1.3 mmol/L,	13 (61.9%)	17 (27%,9%)	0.005	18 (72%)	32 (34.4%)	0.01
Antimyeloperoxidase antibodies (Immunoglobulin G) >20 U	5 (23.8%)	8 (13.1%)	NS	5 (20%)	16 (17.2%)	NS

ADPtest, adenosine diphosphate test; ADPtest >46 U, low response to clopidogrel; ADPtest <46 U, normal response to clopidogrel; ASPItest >30 U, low response to aspirin; ASPItest, aspirin test; APC, activated protein C; CK-MB, creatine kinase, muscle and brain *(subunits)*; HDL cholesterol, high-density lipoprotein cholesterol; LDL cholesterol, low-density lipoprotein cholesterol; NS, not significant; STEMI, ST elevation myocardial infarction.

Table 4. Baseline biomarkers in UA and SA groups.

	UA			SA		
	122			88		
Total	UA, ADPItest >46 U, n = 26 (23.2%)	UA, ADPItest <46 U, n = 86 (76.8%)	*P*	SA, ADPItest >46 U, n = 16 (18.2%)	SA, ADPItest >46 U, n = 72 (81.8%)	*P*
Cholesterol >200 mg/dL	19 (73.1%)	33 (38.4%)	0.05	11 (68.8%)	24 (33.3%)	0.05
LDL cholesterol >100 mg/dL	20 (76.9%)	34 (39.5%)	0.05	11 (68.8%)	25 (35.2%)	0.05
HDL cholesterol <40 mg/dL	20 (76.9%)	33 (38.4%)	0.05	10 (62.5%)	24 (33.3%)	0.05
Triglycerides >200 mg/dL	10 (38.5%)	33 (38.4%)	NS	7 (43.8%)	27 (33.3%)	NS
ASPItest >30 U	6 (23.1%)	5 (5.8%)	0.05	4 (25%)	5 (6.9%)	0.05
Platelets volume >11 fL	16 (61.5%)	21 (24.4%)	0.05	10 (62.5%)	20 (27.8%)	0.01
Flow-mediated vasodilation <4.5%	17 (63.4%)	20 (23.4%)	0.01	11 (68.8%)	2 (2.2%)	0.05
Von Willebrand factor activity >169.7%.	14 (53.8%)	17 (19.7%)	0.05	10 (62.5%)	20 (27.8%)	0.01
S protein <72.2%	1 (3.8%)	1 (1.2%)		1 (6.3%)	—	—
C protein <70%,	1 (3.8%)	—	—	1 (6.3%)	2 (2.8%)	NS
Antithrombin III <71%,	1 (3.8%)	1 (1.2%)	NS	1 (6.3%)	2 (2.8%)	NS
Von Willebrand factor Leiden resistance to APC <2.18	1 (3.8%)	2 (2.4%)	NS	1 (6.3%)	2 (2.8%)	NS
Total antioxidant status <1.3 mmol/L	16 (61.5%)	21 (24.4%)	0.05	9 (56.3%)	22 (30.6%)	0.05
Antimyeloperoxidase antibodies (Immunoglobulin G) >20 U	6 (23.1%)	11 (12.7%)	NS	3 (18.8%)	12 (16.7%)	NS

ADPtest, adenosine diphosphate test; ADPtest >46 U, low response to clopidogrel; ADPtest <46 U, normal response to clopidogrel; ASPItest >30 U, low response to aspirin; ASPItest, aspirin test; APC, activated protein C; CK-MB, creatine kinase, muscle and brain *(subunits)*; HDL cholesterol, high-density lipoprotein cholesterol; LDL cholesterol, low-density lipoprotein cholesterol; NS, not significant.

C. Scientific achievements in the field of integrative medicine - natural compounds with antioxidant capacity

C. INTEGRATIVE MEDICINE

NATURAL COMPOUNDS WITH ANTIOXIDANT CAPACITY

Received: 22 March 2020 | Revised: 12 April 2020 | Accepted: 20 April 2020
DOI: 10.1096/fj.202000658R

RESEARCH ARTICLE

FASEB JOURNAL

Ex vivo and in vivo studies of *Viola tricolor* Linn. as potential cardio protective and hypotensive agent: Inhibition of voltage-gated Ca^{++} ion channels

Fatima Saqib[1] | Khizra Mujahid[1] | Muhammad Arif Aslam[1] | Alotaibi Modhi[2] | Marius Alexandru Moga[3] | Elena Bobescu[3] | Luigi Marceanu[3]

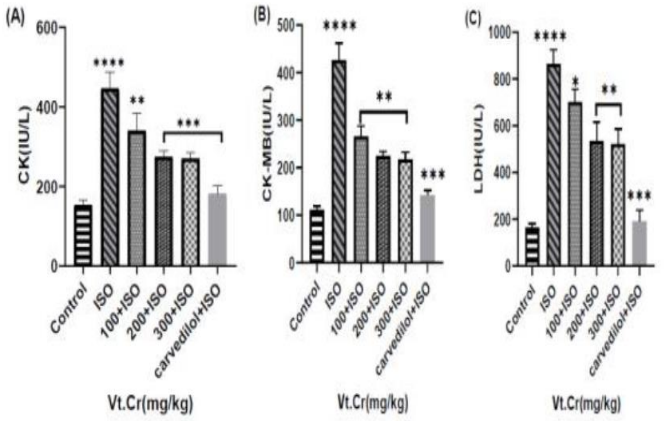

Figure 5. Effect of Vt.Cr (mg/kg) on (A) CK (IU/L) (B) CK-MB (IU/L) and (C) LDH (IU/L) in ISO induced acute myocardial infarction (AMI) in wistar rat. All the data were analyzed by using one-way ANOVA followed by multiple comparison test. *P<0.01, **P<0.001, ****P<0.0001

- We demonstrated the protective and hypotensive effects of natural compound **Viola tricolor Linn.** , some explained by its **antioxidant capacity:**
- - lowered Angiotensin Converting Enzymes (ACE) and renin,
- increased cyclic Guanosine Monophosphate (cGMP) and nitric oxide (NO) levels,
- decreased cardiomyocytes size and fibrosis attributed to Gallic acid with positive results in AMI.

C. INTEGRATIVE MEDICINE

NATURAL COMPOUNDS WITH ANTIOXIDANT CAPACITY

marine drugs

MDPI

Review

Are There Any Beneficial Effects of *Spirulina* Supplementation for Metabolic Syndrome Components in Postmenopausal Women?

Elena Bobescu [1], Andreea Bălan [1,*], Marius Alexandru Moga [1], Andreea Teodorescu [2], Maria Mitrică [1] and Lorena Dima [2]

- **Antioxidant capacity of Spirulina** were evaluated in correlation with antimicrobial, antiviral, antitumor, immunomodulatory, antiallergic and antihypertensive properties.
- In the postmenopausal period, the oxidative stress increases and Spirulina acts as antioxidant : Glutathione peroxidase and oxidized glutathione levels decreased; SOD, GSH and G-S-transferase activity and Total antioxidant status significantly increased
- Spirulina has many antioxidant compounds: phycoerythrin, phycocyanin, allophycocyanin, phycocyanobilin, carotenoids and chlorophyll.

plants

MDPI

Article

Biomolecular Evaluation of *Lavandula stoechas* L. for Nootropic Activity

Aamir Mushtaq [1,2], Rukhsana Anwar [1], Umar Farooq Gohar [3], Mobasher Ahmad [1,2], Romina Alina Marc (Vlaic) [4,*], Crina Carmen Mureşan [4], Marius Irimie [5,*] and Elena Bobescu [5]

- In this study we demonstrated the efficacy of natural compound **Lavandula Stoechas L in reduction of oxidative stress and improving antioxidant defense**
- Lavandula Stoechas L significantly ($p < 0.001$) reduced acetylcholinesterase and malondialdehyde contents, but on the other hand, it improved the level of choline acetyltransferase, catalase, superoxide dismutase, and glutathione, with a strong antioxidant activity
- Lavandula Stoechas L antioxidant compounds: α-tocopherol and phenethylamine

D. Scientific achievements in other cardiovascular related fields of research

D1. Mathematical models in cardiovascular physiology and pathology

D2. Therapeutic strategies in COVID-19 and cardiovascular complications of SARS COV 2 infection

D3. Cardiovascular diseases related with vestibular syndromes

D1. MATHEMATICAL MODELS IN CARDIOVASCULAR PHYSIOLOGY AND PATHOLOGY

Biomechanics and Modeling in Mechanobiology (2021) 20:1399–1412
https://doi.org/10.1007/s10237-021-01451-7

ORIGINAL PAPER

Cilia-assisted flow of viscoelastic fluid in a divergent channel under porosity effects

Khurram Javid[1] · Umar F. Alqsair[2] · Mohsan Hassan[3] · M. M. Bhatti[4] · Touqeer Ahmad[1] · Elena Bobescu[5]

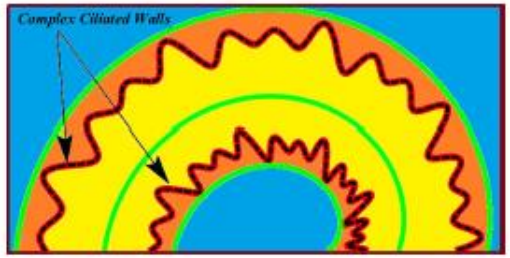

Fig. 1 Flow diagram of nonuniform channel.

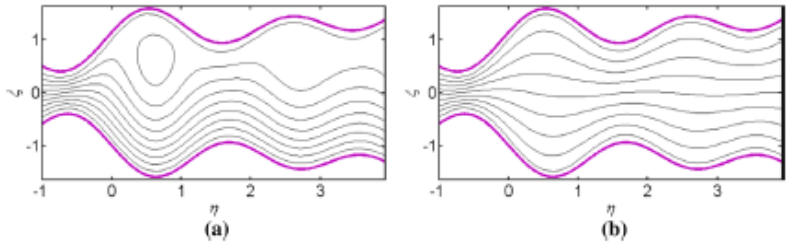

Fig. 9 (a–b) Trapping phenomena for curvature parameter $k(2,\infty)$ at $\theta = 0.1, Da = 0.01, a = 1, \lambda = 1, \eta = -\frac{\pi}{2}, M = 0.1$

- The present study has a dynamic role in understanding the rheological features of viscoelastic fluids through non-uniform vessels and arteries
- It was performed also the mathematical modeling in the presence of blood clot

Journal of Infection and Public Health 14 (2021) 331–346

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Risk management strategies and therapeutic modalities to tackle COVID-19/SARS-CoV-2

Syed Muhammad Ali Shah[a], Tahir Rasheed[b], Komal Rizwan[c,*], Muhammad Bilal[d], Hafiz M.N. Iqbal[e], Nasir Rasool[f], Sebastian Toma[g,*], Luigi Geo Marceanu[g], Elena Bobescu[g]

A subject still far to be closed…

Offical Journal of the TURKISH SOCIETY OF CARDIOLOGY

The Anatolian Journal of Cardiology

Anatol J Cardiol. 2021; 25(9): (jvi.aspx?pdir=anatoljcardiol&plng=eng&volume=25&issue=9) 601-608 | DOI: 10.5152/AnatolJCardiol

(https://dx.doi.org/10.5152/AnatolJCardiol.2021.475)

Thrombosis, an important piece in the COVID-19 puzzle: From pathophysiology to th

Elena Bobescu[1], Luigi Geo Marceanu[2], Alexandru Covaciu[1], Larisa Alexandra Vladau[1]

D3. CARDIOVASCULAR DISEASES RELATED WITH VESTIBULARY SYNDROMES

Canalith Repositioning Procedures (CRP) in BPPV: Risks of BPPV Diagnostic Maneuvres; Indications, Contraindications, Complications and Follow-up of BPPV Treatment by CRP

By: Marceanu, L (Marceanu, Luigi) [1];
Bobescu, E (Bobescu, Elena) [2]
Edited by: Bertesteanu, SVG (Bertesteanu, SVG) ;
Grigore, R (Grigore, R)
View Web of Science ResearcherID and ORCID
(provided by Clarivate)

PROCEEDINGS OF NATIONAL ENT, HEAD AND NECK SURGERY CONFERENCE
Page: 338-344
Published: 2018

Most Frequent Posttraumatic Vertigo and Dizziness Syndromes

By: Marceanu, LG (Marceanu, Luigi G.) [1];
Bobescu, E (Bobescu, Elena) [1, 2]
Edited by: Anghelina, F (Anghelina, F) ;
Bertesteanu, SV (Bertesteanu, SV)

PROCEEDINGS OF THE NATIONAL ROMANIAN ENT, HEAD & NECK SURGERY CONFERENCE
Page: 245-249
Published: 2019

J.M.B. nr. 2 - 2018

SPONDILOZA CERVICALA SI VERTIJUL: INTRE "MIT" SI REALITATE

CERVICAL SPONDYLOSIS AND VERTIGO: BETWEEN "MYTH" AND REALITY

Luigi Mărceanu[1], Elena Bobescu[1,2]

Bulletin of the *Transilvania* University of Braşov
Series VI: Medical Sciences • Vol. 12 (61) No. 1 – 2019
https://doi.org/10.31926/but.ms.2019.61.12.1.5

CRANIO-CERVICAL TRAUMATOLOGY AND VERTIGO

L.G. MĂRCEANU[1*] E. BOBESCU[1, 2]

J.M.B. nr. 2 - 2017

SINDROMUL DE INSTABILITATE POSTURALA- CORELATII DIAGNOSTICE

POSTURAL INSTABILITY SYNDROME - DIAGNOSTIC CORRELATIONS

Luigi G. Marceanu[1], Alexandru Covaciu[1], Elena Bobescu[1,2]

3. SCIENTIFIC EVOLUTION AND DEVELOPEMENT PLANS:

A. Scientific developement plans in the field of oxidative stress

B. Scientific developement plans in the field of platelet reactivity

C. Scientific developement plans in the field of integrative medicine

D. Scientific developement plans in other related field of research

E. The estimated results of my scientific developement plans

A. Scientific developement plans

in the field of oxidative stress

1. **Correlations of oxidative stress with global longitudinal strain reduction in acute coronary syndrome and early diagnosis of heart failure.**

The facts:

- Oxidative stress is followed by ischemia-reperfusion injury, hypertrophy and hypertension, cell death, cardiac dysfunction and heart failure.

- Global longitudinal strain (GLS) for myocardial deformation analysis anticipates the decrease in LVEF and the onset of myocardial dysfunction.

Future research:

- Correlation between oxidative stress biomarkers and global longitudinal strain in ACS and HF

2. The role of drugs with antioxidant effect in the control of hypertension

The facts:

- Oxidative stress is involved also in hypertension
- The drugs with antioxidant potential have improved the control of hypertension in patients with coronary syndromes in our previous research

Future research:

- To evaluate the role of antioxidant effect of drugs in blood pressure control

B. Scientific developement plans in the field of platelet reactivity

Universitatea Transilvania din Brașov
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1. Therapeutical approach in patients with coronary syndrome associated with atrial fibrillation and high platelet reactivity

The facts:

- High platelet reactivity was demonstrated in patients with acute coronary syndrome and also in patients with atrial fibrillation.

Future research:

- A long term approach in these patients could be the combination of therapeutical agent with complementary mechanisms in reduction of oxidative stress and platelets reactivity on top of antithrombotic drugs.

C. Scientific developement plans in the field of Integrative medicine

Universitatea Transilvania din Brașov
FACULTATEA DE MEDICINĂ

1. Efficacy of Spirulina in oxidative stress reduction and blood pressure control

The facts:

- Spirulina has decreased endothelial dysfunction, blood pressure and oxidative stress in previous research

Future research:

- To evaluate if Spirulina could improve the effect of antihypertensive drugs in blood pressure control

Universitatea Transilvania din Brașov
FACULTATEA DE MEDICINĂ

2. The role of antioxidant activity of Viola tricolor L. in coronary syndrome

The facts:

- Viola tricolor L.. has antioxidant effects

Future research:

- To evaluate the role of antioxidant activity of Viola tricolor L. to improve prognosis in coronary syndrome

D. Scientific developement plans in other related field of research

Universitatea Transilvania din Brașov
FACULTATEA DE MEDICINĂ

1. Clinical protocol for evaluation of cardiovascular causes, contraindications and complications of treatment in patients with vestibular syndromes

The facts:

- Cardiovascular causes of instability syndrome: orthostatic hypotension, presence of limb varicose veins, heart rhythm disorders, the chronic treatments with anticoagulants and aspirin, heart failure, chronic hypertension

Future research:

- To elaborate a protocol for diagnosis of cardiovascular causes, contraindications and complications of treatment in patients with vestibular syndromes.

E. The estimated results of my scientific developement plans

E. THE ESTIMATED RESULTS OF MY SCIENTIFIC DEVELOPEMENT PLANS

- **Continuation of research projects**
- **Publishing the results from personal and team research in international high impact journals and books**
- **Participating in competitions for international and national projects/grants**
- **Keynote speaker**
- **Involvement in clinical trials, national and international registers**
- **Collaborations with partners from other universities**
- **Developing new research partnerships with other specialized institutions;**

4. PROFESSIONAL AND ACADEMIC EVOLUTION AND DEVELOPEMENT PLANS:

Professional and academic career

- Academic activity (students and residents)
- Professional activity

Permanent Learning

- Doctoral activity coordination of future research of PhD students
- Research activity

Doctoral and scientific field

- Collaborations with national and international universities
- "Professor mobility" programs
- Involvement in national and international programs and projects

Collaborations

GENERAL OBJECTIVES:

- New knowledge and qualifications in the professional and academic activity in Faculty Department , in Doctoral School and in Medical community
- Continuous educational training programs;
- Permanent ensuring of correlation between research, academic and medical activities;
- Keynote speaker presentations at workshops, national and international conferences, for dissemination of research results
- Participation in scientific events for permanent increase of personal and institutional visibility

STRATEGIES FOR ACHIEVING THE OBJECTIVES

- **The academic activity will be based on the process of improving the methodology of teaching, involving students and updated information**
- **Adherence to the international guidelines in order to ensure the quality of the academic and medical activity**
- **Improving multimedia support, internet access, database access, with high performance IT and medical equipment**
- **Applying modern academic methods: heuristic approach, problematization, discovery learning, modeling, experiment, computer-assisted training / self-training, case study or play role**
- **Multidisciplinary teamwork with direct and online communication**
- **Efficient use of assisted training resources : Internet portal, specialized software applications, databases, online courses**

EXPECTED RESULTS:

- Publication of books and scientific articles together with students, doctoral students and residents, in national and international publications;
- Periodically updating the teaching material with scientific results from the national and international literature
- Coordination of future doctoral thesis and dissertation
- Permanent contribution to the development of knowledge and innovation in the teaching disciplines
- Ensuring a high quality of the academic activity with focus on the student
- Involvement of students and PhD students in their academic training
- Development of modern teaching materials, adapted to the particularities of digital learning of students

Academic and professional visibility

In the scientific committees of national and international conferences

In the professional societies

In editorial and review boards of indexed journals

In international scientific board

As keynote speaker

THANK YOU!

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