

# Elena Grossini

## *Curriculum vitae*

### PERSONAL DATA

Born in Novara on July, 28th, 1970

Resident in Novara

Mobile: 3337960902

### CURRICULUM VITAE ET STUDIORUM

Prof. Grossini got the scientific High School Degree in 1998 at liceo scientifico "A. Antonelli" in Novara. She got the Bachelor's Degree in Medicine *magna cum laude* and with honorary mention in 1995 at University of Study of Turin. She got the PhD in Molecular Medicine in 2000 at University of Study of East Piedmont "A. Avogadro".

### UNIVERSITY CAREER

2015-	Associate Professor, Physiology, University of Study of East Piedmont "A. Avogadro"
2002-2015	Researcher, Physiology, University of Study of East Piedmont "A. Avogadro"
1996-2000	PhD in Molecular Medicine, University of Study of Turin/University of Study of East Piedmont "A. Avogadro"
1995-1998	Tutor e teaching assistant (Physiology) at Faculty of Medicine, University of Study of Turin

### MAIN FIELDS OF INTEREST

1. Nervous reflex and hormonal control of cardiovascular system
2. Protection against ischemia/reperfusion injuries
3. Inflammation, oxidative stress and metabolic aspects in obesity
4. Oxidative stress and psychiatric diseases

## CURRENT ISSUES OF RESEARCH

### **1. Protection against ischemia/reperfusion injuries**

Prof. Grossini has been examining the protective role exerted by hormones, peptides and drugs against ischemia/reperfusion injuries. By performing both *in vivo* and *in vitro* experiments, on anesthetized pigs and rats and in various cellular models (endothelial cells, cardiac cells and hepatocytes), Prof. Grossini aims to analyze the role played by mitochondrial KATP channels and NO release in modulation of apoptosis and autophagy.

### **2. Hormonal/humoral regulation of the cardiovascular system**

Prof. Grossini has been examining the hemodynamic effects elicited by intravenous/intracoronary infusion of many hormones/peptides, like urocortin II, intermedin 1-47, gastrin 17, melatonin, secretin, human chorionic gonadotropin, adiponectin and des acyl ghrelin. Experiments have been performed in anesthetized pigs. Moreover, Prof. Grossini has been examining the role of autonomic nervous system, nitric oxide and specific receptors by performing *in vitro* experiments in endothelial cells.

### **3. Cardiovascular parameters modulation in obese children**

Childhood obesity is widely known to increase the risk of cardiovascular disease. In this research project, Prof. Grossini, together with Pediatrics, Vascular Surgeons and Biotechnologists, has been involved in examining the cardio-vascular function and inflammatory and oxidative stress profile in children and adolescents before and after 6-12 months diet and exercise.

### **4. Oxidative stress and psychiatric disease**

Neuropsychiatric diseases are widely increasing in Western Countries. Recent experimental evidences have suggested the possible role played by inflammation and oxidative stress in the pathogenesis of psychosis. Prof. Grossini has been examining the effect of antipsychotics in modulation of inflammation/oxygen reactive species generation in patients suffering from schizofrenia/depression/mania/.

### **5. Changes in external retina and choriocapillary layer caused by laser therapy in young and old C57BL/6 mice**

Age-related macular degeneration is the main cause of blindness in population older than 60 years. Prof. Grossini aims to examine in the animal model the effect of laser therapy on lipid-rich deposits in Bruch's membrane and on the trophism of cells involved in macular

degeneration. The results would have a great social impact in prevention of blindness of old people with enormous advantages from both economic and social point of view.

## **6. Effects of genistein and estradiol in the modulation of psoriasis**

Psoriasis is a skin lymphoproliferative disorder which affects about 4% of general population. The pathogenesis is complex and is related to a lot of factors, among which the hormonal and inflammatory ones. The aim of this research is to analyze the role played by estradiol and genistein, the main phytoestrogen, on proliferation and response to oxidative stress of human keratinocytes and to examine the related mechanisms.

### **TOP FIVE PAPERS**

1. Grossini E, Raina G, Farruggio S, Camillo L, Molinari C, Mary D, Elisabeth Walker G, Bona G, Vacca G, Moia S, Prodam F, Surico D. Intracoronary des-acyl ghrelin acutely increases cardiac perfusion through a nitric oxide-related mechanism in female anesthetized pigs. *Endocrinology*. 2016 Apr 21:en20151922. [Epub ahead of print]
2. Grossini E, Molinari C, Uberti F, Mary DA, Vacca G, Caimmi PP. Intracoronary melatonin increases coronary blood flow and cardiac function through  $\beta$ -adrenoreceptors, MT1/MT2 receptors, and nitric oxide in anesthetized pigs. *J Pineal Res*. 51:246-57, 2011.
3. Grossini E, Molinari C, Caimmi PP, Uberti F, Vacca G. Levosimendan induces NO production through p38 MAPK, ERK and Akt in porcine coronary endothelial cells: role for mitochondrial KATP channel. *Br J Pharmacol* 156:250-261, 2009.
4. Grossini E, Molinari C, Mary D.A.S.G., Uberti F, Caimmi P.P., Vacca G. Intracoronary intermedin 1-47 augments cardiac perfusion and function in anesthetized pigs: Role of calcitonin receptors and  $\beta$ -adrenoreceptor-mediated nitric oxide release. *J Appl Physiol* 107: 1037-1050, 2009
5. Grossini E, Molinari C, Mary DA, Uberti F, Caimmi PP, Surico N, Vacca G. Intracoronary genistein acutely increases coronary blood flow in anesthetized pigs through beta-adrenergic mediated nitric oxide release and estrogenic receptors. *Endocrinology* 149:2678-2687, 2008.

### **AWARDS**

1. International Reviewer for Romanian National Research Council (2012-2013- 2016)
2. Editorial Board Member della rivista "Journal of Cardiology and Therapy" dal 2013.
3. "Start Cup" Torino-Piemonte 2010 for the project: Advancing in Physiology and Cordis (A.P.C.).

## **FURTHER INFORMATION**

Prof. Grossini got funds as “Principal Investigator” from “Ricerca Sanitaria Finalizzata” Regione Piemonte (2006-2009) and from Orion Pharma Cooperation, Espoo Finland, 2010.

Prof. Grossini is member of Società Italiana di Fisiologia and of American Physiological Society.

The results of her studies have been presented in a great number of national and international meetings and have been published in main International journals in the fields of Physiology, Cardiology, Endocrinology and Pharmacology.

The total number of publications (may 2016) is 78 (of which 27 as first author and 7 as last author). The total number of citations is 916. h index is 18.