Giovanni Vacca

Curriculum vitae

Personal Data

Born in San Benigno Canavese on March, 23rd, 1948

Resident in Novara

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Curriculum vitae et studiorum

He gets the Degree in Natural Sciences in 1972, the Specialization in Microbiology in 1974 and the Degree in Medicine in 1989. In 1971 he started his scientific activity at laboratorio di Fisiologia Cardiovascolare, University of Turin, taking part to the researches about the hemodynamics of arrhytmias, of the coronary stenoses and taking part to studies of the cardiovascular effects of the vinus of the Bitis Gabonica. Since 1986 he has spent a lot of time at the Department of Cardiovascular Studies of the University of Leeds, taking part to the researches about the hemodynamic reflex effects of the stimulation of the urinary bladder and atrial mechanoreceptors.

University career

2004-2010	Dean of the Facoltà di Medicina e Chirurgia, University of Study of East Piedmont “A. Avogadro”
1999-	Full Professor at Facoltà di Medicina e Chirurgia, University of East Piedmont "A. Avogadro"
1985-1999	Associate Professor, Physiology, 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. Vacca 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. Vacca 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. Vacca has been examining the hemodynamic effects elicited by intravenous/intracoronary infusion of many hormones/peptides, like growth hormone, estrogens, progesterone, deydroepiandrosterone, insulin, ghrelin, urocortin II, intermedin 1-47, gastrin 17, melatonin, secretin, human chorionic gonadotropin, adiponectin and des acyl ghrelin. Experiments have been performed in anesthetized pigs.

3. Cardiovascular parameters modulation in obese children

Childhood obesity is widely known to increase the risk of cardiovascular disease. In this research project, Prof. Vacca, 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. Vacca has been examining the effect of antipsychotics in modulation of inflammation/oxygen reactive species generation in patients suffering from schyzofrenia/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. Vacca 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) Molinari C, Battaglia A, Grossini E, Mary DA, Vassanelli C, Vacca G. The effect of dehydroepiandrosterone on coronary blood flow in prepubertal anaesthetized pigs. J Physiol. 2003 Jun 15;549(Pt 3):937-44.

2) Molinari C, Grossini E, Mary DA, Vacca G. Effect of distension of the gallbladder on plasma renin activity in anesthetized pigs. Circulation. 2000 May 30;101(21):2539-45.

3) Vacca G, Battaglia A, Grossini E, Mary DA, Molinari C, Surico N. The effect of 17beta-oestradiol on regional blood flow in anaesthetized pigs. J Physiol. 1999 Feb 1;514 (Pt 3):875-84.

4) Vacca G, Papillo B, Battaglia A, Grossini E, Mary DA, Pelosi G. The effects of hypertonic saline solution on coronary blood flow in anaesthetized pigs. J Physiol. 1996 Mar 15;491 (Pt 3):843-515.

5) Vacca G, Battaglia A, Grossini E, Mary DA, Molinari C. Reflex coronary vasoconstriction caused by gallbladder distension in anesthetized pigs. Circulation. 1996 Nov 1;94(9):2201-9. PubMed PMID: 8901672.

AWARDS

1. "Start Cup" Torino-Piemonte 2010 for the project: Advancing in Physiology and Cordis (A.P.C.).

2. Philippe Caimmi, Vacca G (2009). Dispositivo per la correzione del rigurgito mitralico. TO2009A000785

3. Philippe Caimmi, Vacca G (2009). Protesi per anuloplastica mitralica. TO2009A000270

FURTHER INFORMATION

Prof. Vacca is member of Società Italiana di Fisiologia.

Prof. Vacca got founds as “Principal Investigator” from “Ricerca Sanitaria Finalizzata” in 2003, 2004, 2006, 2007, 2008 and 2009.

The results of his 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 118.