



Revista Colombiana de Cardiología

www.elsevier.es/revcolcar



EDITORIAL

Smoking: the enemy of the heart

Tabaquismo: el enemigo del corazón

In January of the current year, fifty years of the report of the Surgeon General of the United States where for the first time the deleterious effects of smoking on health were described, have been celebrated¹. In the following years an advance was made from identifying an association between smoking and cardiovascular disease, to a detailed epidemiological and pathophysiological analysis that confirmed a causal relationship with coronary artery disease, peripheral artery disease, and stroke.

The two molecules involved directly with cardiovascular disease are carbon monoxide and nicotine². The first produces hypoxemia, which promotes the release of free radicals and the development of early atherosclerotic plaques due to injury and endothelial dysfunction. The second affects the cardiovascular system by coronary vasoconstriction, release of catecholamines, altered lipid metabolism – lower HDL cholesterol and increased LDL oxidation- and induction of a hypercoagulable state by alteration of the platelet membrane and an increase of thrombin and fibrinogen³.

For every ten cigarettes daily smoked, mortality from cardiovascular disease increases by 18% in men and 31% in females. In male smokers acute myocardial infarction may appear on average a decade earlier with regard to non-smokers and if consumption is greater than twenty cigarettes per day, it can be anticipated just about twenty years. Nonsmoking women developed a first coronary event nearly ten years later than men; however, smokers may develop an acute myocardial infarction at similar ages than men^{4,5}.

Today smoking is recognized as the pandemic of the XXI century, a chronic and addictive disease that kills 50% of consumers. It is responsible for over 5 million deaths each year worldwide –1 million in America– and it will double by 2025, without counting the costs of managing patients with tobacco-related diseases, which are astronomical⁶.

In Colombia, according to data obtained from the study conducted last year by the Institute for Health Technology Assessment (IETS), along with the National Cancer Institute, each year 112,891 people suffer heart disease and each day 72 die from diseases attributed to tobacco. 4.23 billion Colombian pesos are spent in health care costs each year for diseases caused by the consumption of tobacco⁷.

The response of society to this public health problem is the first international treaty on health: The World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC), which aims to “protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke.” It was formalized on May 21, 2003 and to date has been signed by 168 countries. It is a treaty of public policies that include among others, rising tobacco prices and taxes to reduce its demand, 100% smokefree spaces, ban on advertising, promotion and sponsorship of tobacco and education, communication, training and public awareness⁸. Colombia ratified its accession to this treaty in 2008 and in 2009 enacted the 1335 law to guarantee the protection of non-smokers, especially children, and to establish rules on the use, sale, advertising and promotion of cigarettes and tobacco products. The creation of health and educational programs to reduce consumption and encourage the cessation of tobacco dependence was also established. Nevertheless, it is unfortunate that the regulation and implementation of this law advances with astonishing slowness in topics such as taxes, rates, and penalties⁹.

So, it is urgent that we, the doctors who daily see the consequences of the tobacco consumption, take a clear and defined position on the leading preventable cause of death and disease in the world on several fronts. First, diagnose, record in the clinical history and provide systematic support for smokers. Promote the creation of specific lectures on

tobacco smoking in pre and postgraduate universities of Medicine, Dentistry, Nursing and others to popularize the management of this disease, as it has been achieved with many cardiovascular and pulmonary diseases. Promote the creation of specialized consultations and cessation clinics structured to provide effective treatment to tobacco addicts. Require the State to implement current regulations such as strengthening the smokefree spaces, increase the warnings on packets above 50%, raise tobacco prices and taxes and effectively prohibit the retail sale to minors, and finally, participate from the scientific associations to achieve the inclusion of medicines needed to treat these patients in mandatory health plans.

Great challenges are ahead. The most important one is to move towards greater social awareness for compliance with the laws on the consumption of tobacco and the need to address smoking as a priority in our work plans. It is necessary to promote and support tobacco prevention programs in schools, universities and communities seeking to combat the increase of young smokers.

Finally, it is convenient promote training and research from the academy to obtain health professionals suited to the management of patients suffering from this disease.

It behooves us to write the history of the next fifty years of the fight against smoking.

Bibliography

1. U.S. Department of Health, Education, and Welfare. Smoking and Health. Report of the Advisory Committee to Surgeon General of the Public Health Service. Washington, DC: U.S. Department of Health Education and welfare / Public Health Service, 1964 Available at: [Http://profiles.nlm.nih.gov/NN/Views/Exhibit/narrative/smoking.html](http://profiles.nlm.nih.gov/NN/Views/Exhibit/narrative/smoking.html). Access: May 1, 2014.
2. Czernin J, Waldherr C. Cigarette smoking and coronary blood flow. *Progress in Cardiovascular Diseases*. 2003, 45 (5) :395-404.
3. Athyros VG, Katsiki N, Doumas M, Karagiannis A, et al. Effect of tobacco smoking and smoking cessation on plasma lipoproteins and cardiovascular risk factors Associated major: a narrative review. *Opin.2013 Curr Med Res*, 29 (10) :1263-74.
4. Hansen E, Andersen L, Von Eyben F. Cigarette smoking and age at first acute myocardial infarction, and Influence of gender and Extent of smoking. *Am J Cardiol*. 1993, 71:1439-1442.
5. Available at: <http://www.framinghamheartstudy.org/risk-functions/coronary-heart-disease/index.php>. Accessed May 2, 2014.
6. Available at: <http://www.who.int/mediacentre/factsheets/fs339/en/> Accessed May 5, 2014.
7. Radiography of smoking in Colombia IETS INC Available in November 2013.: file:///E:/DOCUMENTOS/ed%20tabaco%20rcol%20cardiologia/ISSUU%20-%20Radiograf%C3%ADa%20del%20Tabaquismo%20en%20Colombia%20by%20IETS.htm. Accessed May 5, 2014.
8. WHO. Framework Convention on Control of Tobacco. Available at: http://www.who.int/fctc/signatories_parties/es/. Accessed May 5, 2014.
9. Available at: [Http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=36878](http://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=36878). Accessed May 5, 2014.

Nelson Páez Espinel, MD

Internist Neumonologist, Smoking Expert SEPAR,
Fundación Colombiana Neumológica, Colombia

E-mail: npaez@neumologica.org