



## Special Article

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José Ignacio de Granda-Orive\* and Francisco Roig-Vázquez

Unidad de Neumología, Hospital Infanta Elena, Valdemoro, Madrid, Spain

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As mentioned in previous years,<sup>1-3</sup> our journal enjoys a high level of quality and influence, which is reflected not only in a high index of impact, but also in influence indicators such as the Eigenfactor Score,<sup>4</sup> in which it has improved its position among journals dealing with the respiratory system by increasing its point score between 2006 and 2007. If we assess the data from the SCImago Journal & Country Rank page,<sup>5</sup> a portal that combines indicators from journals and developed countries from the information contained in the Scopus® (Elsevier B.V.) database, we can find *Archivos* placed in the second group (of four) of respiratory system journals, at spot 39 of a total of 78 (data from 2008; SCImago Index Journal Rank 0.078 and an h index of 22) and, with even better scores than some journals that precede it in ranking, boasts 350 citable documents for 2008, and a mean of 1.54 citations per document. Spain, in the Pulmonary and Respiratory Medicine system, takes the 8th place (of a total of 167 countries) with 3,092 citable documents from 1996-2008 and a mean of 14.16 citations per document, which, along with the previous data, indicates the weight of *Archivos de Bronconeumología*. This platform bases its data for influence on the calculation of the h-factor that was created as an attempt to measure the career and scope of an author. An author that is well known and recognized in his/her field will have a greater h-factor at the end of his/her professional career than at its start independent of the publishing journal or publication type used to divulge his/her contributing material. Hirsch, the creator of this index, specifically said *A scientist has an index h if h of his/her Np works each received at least h citations, and*

*the others (Np-h) works each had a maximum of h citations.* In other words, a scientist has a given h-index if he/she publishes h works with at least h citations each. Therefore, the h-index balances the number of publications and their citations. As a measurement of impact, the h-index is not perfect, and has both advantages and disadvantages. This platform takes its name from the SCImago Journal Rank indicator index, developed by SCImago from a widely known algorithm called Google PageRank™. This index shows the visibility of journals based on the Scopus® database since 1996. SCImago is a research group of the Higher Council for Scientific Research and the Universities of Granada, Extremadura, Carlos III of Madrid, and Alcala of Henares, and is dedicated to the analysis, representation, and retrieval of information. The SCImago Journal and Country Rank incorporates 15000 peer-reviewed journals with over 4,000 editors, more than 1,000 open access journal titles, 33 million registries with over 600 specialized journal titles, and results on over 386 million scientific websites, which indicates its scope.

In 2009, the journal *Archivos de Bronconeumología* published a total of 50 original articles, which will be commented on presently, keeping in line with the format from previous years as much as possible.

#### Chronic Obstructive Pulmonary Disease

The objective of the study by Aymerich et al.<sup>6</sup> was to establish a methodology for studies that attempt to phenotypically characterize and analyze the evolution of chronic obstructive pulmonary disease (COPD) in order to understand its phenotypic heterogeneity and to evaluate whether or not heterogeneity varies with disease evolution.

\*Corresponding author.

E-mail address: igo01m@gmail.com (J.I. de Granda-Orive).

This study is currently under way. Torres et al.<sup>7</sup> aimed to examine lactodehydrogenase (LDH) isoenzymes in peripheral muscle of COPD patients. The authors found no significant differences between the COPD group and the control group for total LDH concentrations or its isoenzymes. In women, they demonstrated a decrease in LDH<sub>5</sub> and increases in LDH<sup>1-3</sup> with lower oxygen saturation. The value of LDH was shown to be directly related to the 6 min. walking test and oxygen saturation. Therefore, using LDH isoenzyme concentrations, the authors identified a sub-group of patients with a greater concentration of cardiac isoenzymes and a lower concentration of muscular isoenzymes, which could represent an adaptation favouring aerobic metabolism. Angulo et al.<sup>8</sup> showed that diaphragm dysfunction associated with chronic obstruction of the respiratory tract improves with salbutamol in both chronic and acute cases. Casadevall et al.<sup>9</sup> analyzed the relationship between the expression of muscular cytokines in the muscles of patients diagnosed with COPD and the genetic activation of muscle repair programs. The authors confirmed the presence of cellular lesions, although in small numbers, in the external intercostal muscle. At the same time, they observed low concentrations of inflammatory cells and close relationship between the expression of TNF- $\alpha$  receptors and the activation of biogenesis, which could indicate that said cytokines play an important role in the repair and remodelling of respiratory muscles in patients with COPD. Mota et al.<sup>10</sup> studied the relationship between expiratory muscle dysfunction and the level of dynamic hyperinflation in advanced COPD as well as its association with dyspnoea and quality of life, and found that the reduction in expiratory muscle strength in advanced COPD is related to greater dynamic hyperinflation and reduced limitation of expiratory flow during exercise, which is associated with more severe dyspnoea and reduced quality of life. Moreno et al.<sup>11</sup> evaluated the cause of death and mortality predictors in a group of patients with severe COPD, finding that the majority of patients died of a respiratory cause (80.9%), with COPD exacerbations being the most frequent. Mortality was directly associated with age, stage IV on the GOLD classification scale, cor-pulmonale, and hospital stay duration during the year before inclusion. The objective of the study by Balleza et al.<sup>12</sup> in patients with COPD was to link variables of pulmonary function (spirometry, static volumes, and carbon monoxide transfer) to the findings from electrical impedance tomography, in order to obtain a calibration equation that would allow conversions from the electrical signal in an electrical impedance tomography to a signal of volume. The authors found significant relationships between the electrical impedance tomography and carbon monoxide transfer, developing a mathematical model to adjust for the differences between the two measures as a compensation factor.

### **Sleep-Disordered Breathing and Mechanical Ventilation**

#### *Sleep-Disordered Breathing*

In order to study the role of the N-terminal portion of brain natriuretic peptide (NT-proBNP) in the detection of silent cardiopathy, Fernandez Fabrelles et al.<sup>13</sup> designed a descriptive study that found that NT-proBNP was significantly correlated with interventricular septal thickness, posterior wall thickness, and the left ventricular diastolic diameter. NT-proBNP values under 100 and 200 pg/ml rule out morphological cardiac alterations with a 90 and 100% reliability, respectively. Therefore, the authors concluded that NT-proBNP could

be considered a useful tool for identifying patients that should be sent to a cardiologist. The objective of the study by Campos Rodríguez et al.<sup>14</sup> was to analyze the clinical and polysomnographic characteristics of sleep apnea-hypopnea syndrome (SAHS) localized in the REM sleep phase (REM-specific sleep disordered breathing [SDB]). The authors found that 32.9% of SAHS cases presented REM-SPECIFIC SDB, being most frequent in slight/moderate SAHS. REM-specific SDB was independently associated with sex (female), a lower index of apnea-hypopnea, and a higher body mass index. There were no differences between patients with REM-specific SDB and non-REM-specific SDB as far as SAHS symptoms, subjective daytime somnolence, sleep architecture, cardiovascular risk factors, or history of cardiovascular events. The objective of the study by Drummond et al.<sup>15</sup> was to evaluate the effect exerted by respiratory tract treatment with automatic positive pressure on the serum concentration of high sensitivity C-reactive protein and interleukin-6 (IL-6) in SAHS patients. They also evaluated the baseline concentrations of high sensitivity C-reactive protein and IL-6 and their relationship with disease severity by comparing these levels to a control population. The authors found that serum concentrations of high sensitivity CRP were elevated in SAHS patients as compared to the control group, independently of age and body mass index. No short term or long-term reductions were observed in inflammatory markers following treatment by automatic positive pressure on the respiratory tract.

#### *Mechanical Ventilation*

The aim of the study by Fernández Álvarez et al.<sup>16</sup> was to analyze patients that were dependent on home mechanical ventilation and to describe the impact on the patient's care providers. The authors found that 30% of patients included in the study were dependent, 46% of which were women, and had a mean time spent on home mechanical ventilation of 45 months with 40% of patients receiving ventilation for more than 12 hrs. Among the care providers, 58% were single care providers (77% women), working out of their own homes in 70% of cases, and with a high risk of overburdening in 35% of cases.

### **Physiopathology**

Diaphragm contractions depend on several factors, such as the initial length (at rest) of the muscle, which can vary due to changes in the thoracic cavity and modifications in elements of the abdominal cavity. Given that the activity of the diaphragm can be modified by its initial length, Gea et al.<sup>17</sup> evaluated the influence of surgery and changes in abdominal wall rigidity on the activity of the muscle. By electrically stimulating both phrenic nerves in experimental animals using supramaximal single pulses, they assessed the pressures generated by the diaphragm and muscular shortening. The authors found that the rigidity of the abdominal wall plays an important role in the diaphragmatic response to stimulation, and this appears to be primarily due to changes in length at rest. In another study by the same group, Gea et al.<sup>18</sup> evaluated the functional effects of a repeated series of eccentric contractions on the diaphragm. The authors provoked an elongation of the diaphragm using external abdominal pressure in experimental animals to induce external contractions through a concentric series of bilateral supramaximal pulses. Using the suggested model, they observed a loss of function that lasted hours, partly due to the structural injury sustained, which indicates

that clinicians should be cautious when performing manipulations that imply an elongation of the diaphragm.

### Asthma

In a study describing mortality rates due to asthma in Spain between 1960 and 2005, Sánchez Bahillo et al.<sup>19</sup> found that mortality had decreased during the study period, although with differences between men and women, where the decrease was lower. Torres et al.<sup>20</sup> evaluated the inhibiting effect of cyclooxygenase-2 in the response of respiratory tracts exposed to ovalbumin and mast cell activity in an animal model for allergic asthma. They found that the inhibition of cyclooxygenase-2 worsens pulmonary function, due in part to an increase in mast cell activity in the respiratory tract. In a similar study, Fraga Iriso et al.<sup>21</sup> developed a mouse model of experimental asthma that allowed a simultaneous evaluation of inflammation and remodelling parameters of the respiratory tract through quantitative morphology. The authors observed an increase in total leukocyte levels as well as eosinophil and leukocyte fractions in the bronchioalveolar lavage (BAL) in experimental models as compared to controls. Furthermore, sagittal lung slices taken from experimental rats showed goblet cell hyperplasia, dense mononuclear and eosinophilic inflammatory infiltration, subepithelial infiltration by mast cells, increased mass of contractile tissue and increased extracellular matrix.

Arnedo Pena et al.<sup>22</sup> analyzed the relationship between air contaminants and the prevalence of recent symptoms of asthma, rhinitis, and atopic eczema in 6-7 year old students. They used the questionnaire developed by the International Study of Asthma and Allergias in Childhood (ISAAC) and determined mean annual concentrations of sulphur dioxide, nitrogen dioxide, carbon monoxide, and total suspended particles. They found that both sulphur dioxide and carbon monoxide increase the risk of recent symptoms of allergic rhinitis and asthma in 6-7 year old schoolchildren. The objective of the study by Plaza et al.<sup>23</sup> was to analyze the impact of previous treatment for asthma, in terms of efficacy and safety, on severe asthma exacerbations. The authors found that those patients that did not follow a previous maintenance treatment presented with more severe exacerbations, reporting no greater mortality/morbidity from severe asthma exacerbations in patients with persistent moderate/severe asthma who received previous treatment with inhaled glucocorticoids and beta-2 adrenergic agonists. The objective of the study by Morell et al.<sup>24</sup> was to evaluate the clinical characteristics and rate of asthma exacerbations in hospital and home emergency services. The authors found no incidence of asthma exacerbations different than those obtained previously. Asthma exacerbations occurred predominantly in women (60%) and 41% were in smokers, starting in the majority of cases with a nasal catarrh (63%) and 11% of the exacerbations were severe.

In a different study, Perpiña Torderá et al.<sup>25</sup> evaluated questionnaires for the asthmatic population; Health Belief Questionnaire (HBQ) and the Beliefs about Medicines Questionnaire (BMQ). The BMQ reported internal consistency and correct content validity. However, the HBQ did not reproduce the original 6-factor structure, and only four were present in the reformulated questionnaire (reformulated-HBQ). The authors concluded that the reformulated-HBQ and the BMQ had satisfactory measuring properties and evaluated similar, but not identical, aspects of the

beliefs and values of asthmatics on health and medicines. Martínez Moragón et al.<sup>26</sup> evaluated resources consumption and costs derived from asthma patients in Spain. The authors found that the mean cost per adult asthma patient reaches 1,726 and 1,533 Euros from the perspectives of society and the National Healthcare System, respectively. The health resources that most contributed to these costs were medications, tests and exploratory procedures, and hospital admissions, being poor asthma management responsible for 70% of the cost. Non-healthcare costs were attributed for only 11.2% of the total costs.

### Smoking

Gómez Cruz et al.<sup>27</sup> analyzed the efficacy of a 3-year intensive smoking prevention program in schools that was elaborated by the education system itself. At the end of the program, the authors compared the core student variables between the intervention and control groups and found no significant differences between them, thereby rejecting the initial working hypothesis. Therefore, they concluded that no program can guarantee results, necessitating a redesigned program based on clinical, and not pedagogical, criteria, with decreased intensity, with younger-aged students, and integration of the students' parents. The objective of the study by Jiménez Ruiz et al.<sup>28</sup> was to present health and drug expenditure results from a Specialized Smoking Unit. They evaluated two health parameters: group and individual protocols under combined treatment (pharmacological and psychological) in 10 offices during a period of 12 months. The authors found a continued abstinence at 6 and 12-month follow-ups of 58.5% and 54.9%, respectively, which lowered to 42 and 35% at 36 and 57 months follow-up, with positive economic results. Fríguls et al.<sup>29</sup> analyzed the relationship between prenatal/postnatal exposure to tobacco and the appearance of respiratory and allergic symptoms during the first 4 years of life. The authors found that exclusively prenatal exposure was related to an increased risk of hospitalization due to respiratory infections, above all in the second year of life, while postnatal exposure was associated with late-appearing wheezing and increased the probability of being diagnosed with asthma at 4 years of age. Both pre and postnatally exposed children presented with greater levels of wheezing, persistent rhonchi, nocturnal coughing, colds in the first year, and diagnosis of asthma. The risk of developing wheezing was directly related to cotinine levels. However, the authors found no relationship between tobacco exposure and atopy.

### Oncology

Cerón et al.<sup>30</sup> determined the causes of mortality in patients operated for non-microcytic bronchogenic carcinoma in stage IB, as well as the impact that the number of adenopathies analyzed has on survival rates. The authors found that the tumour size and the number of adenopathies significantly predicted survival of non-microcytic bronchogenic carcinomas in stage IB. The most frequent cause of mortality was metastasis elsewhere in the body (central nervous system and bone). The authors concluded that failure to perform a systematic lymph node dissection could impact on a successful staging of non-microcytic bronchogenic carcinomas, and that the larger the lymphadenectomy, the greater the probability of success in pathological staging. The effect that the number of lymph nodes analyzed has on survival requires a mediastinal lymph node

dissection as broad as possible. Mongil Poce et al.<sup>31</sup> sought to determine the survival of patients intervened by resection of pulmonary metastases in colorectal cancer, evaluating the applicability of already established predictors. The authors found no significant differences in survival when analyzing by sex, approach methods, number of metastases, and illness-free period, but there was a significant difference by type of resection (greater 3-year survival in patients who received an atypical resection as compared to those who received a lobectomy). The objective of the study by Díaz Merchán et al.<sup>32</sup> was to show their experience with videothoracoscopy for staging and assessment of resectability in lung cancer. The authors concluded that the techniques of exploratory videothoracoscopy and videopericardioscopy as the first step in interventions on lung carcinomas can be performed in a few short minutes, do not implicate increased morbidity, and avoid a significant portion of exploratory thoracotomies. The objective of the study by Gürsoy et al.<sup>33</sup> was to examine the clinical features, diagnostic techniques, and treatment of primary mediastinal cystic lesions. The location of the cysts (mainly congenital, 94%) was 24% in the anterior mediastinum and the rest in the visceral mediastinum (n = 26). The most frequent symptoms were pain and chest discomfort, followed by dyspnoea, cough, and haemoptysis. In all cases, the authors proceeded to the surgical removal of the cyst with no important complications and with no long-term recurrences. Although the following article could have been just as easily included in the COPD epigraph as in the oncology section due to its primary objective, we have decided to include it here in oncology. Abel Arca et al.<sup>34</sup> analyzed the frequency, features, and survival of patients with lung cancer and COPD, comparing these to patients with COPD but without cancer. They found that COPD and lung cancer were associated in 39.8% of cases (primarily in stages II and III on the Gold classification system) with squamous carcinomas as the predominant manifestation (at rapid stages). A comparison of patients with cancer and COPD with those that had only lung cancer showed that the COPD/cancer group were older and mostly smokers (96.6 vs. 75%) and reported a greater survival rate.

### Tuberculosis and Respiratory Infections

The objective of the study by Ramos et al.<sup>35</sup> was to analyze the scientific production in Spain of papers on tuberculosis during the period from 1997-2006 within the European Union framework. The authors found that the production regarding tuberculosis has been constant throughout the study period, assuming an important contribution from throughout the European Union. Mir Messa et al.<sup>36</sup> evaluated bronchial inflammation in preschool children with recurrent bronchitis by determining inhaled nitric oxide. The authors found an elevated mean nitric oxide fraction in the group of children with bronchitis, with significant differences between the control group and children with bronchitis who received no inhaled corticosteroids, but not with those who did receive them. They also found that those who presented with higher blood eosinophil (> 400/ $\mu$ l) levels had higher nitric oxide levels.

### Vascular

Blázquez et al.<sup>37</sup> analyzed the results following the application of a pulmonary thromboendarterectomy in patients with chronic thromboembolic pulmonary hypertension. The authors concluded

that a pulmonary thromboendarterectomy improved pulmonary hemodynamics (reduction in pulmonary systolic pressure [p 0.001] and mean arterial pressure [p 0.001], and increase in cardiac index [p 0.001], prolonged survival, and improved functional state of the patient). The objective of the study by Fernández et al.<sup>38</sup> was to evaluate the impact of COPD on diagnosis and prognosis in a series of consecutive patients with acute symptomatic TB. They found that diagnosis of TB was significantly delayed in patients with COPD, with a low clinical probability. The COPD background was not significantly related to TB mortality.

### Diagnostic Techniques and Lung Transplant

#### Diagnostic Techniques

Sánchez Font et al.<sup>39</sup> compared the performance of transbronchial needle aspiration (TBNA) guided by endobronchial ultrasonography (EBUS) with the conventional technique used to study mediastinal adenopathies. The authors found that the performance of radial EBUS-guided TBNA was higher to that of conventional TBNA for paratracheal and hilar stations. García Olivé et al.<sup>40</sup> performed a total of 294 linear EBUS-guided TBNA procedures on twelve masses and 282 mediastinal adenopathies. The authors found analyzable samples in 91.7% of the masses and in 82.6% of the adenopathies, avoiding mediastinoscopy in 115 patients with a diagnostic sensitivity of 89.5%. The diagnostic was confirmed in 90.4% of neoplasia cases, in 80% of tuberculosis cases, and in 100% of sarcoidosis cases. As a result, the authors concluded that linear EBUS-guided TBNA is a useful instrument in patients with mediastinal issues. The objective of the study by Gallardo Valera et al.<sup>41</sup> was to test the usefulness of exploratory videothoracoscopy in the evaluation of resectability of pulmonary carcinomas by differentiating between true T3 tumours with parietal invasion from those that are incorrectly classified in imaging tests. The authors concluded that exploratory videothoracoscopy is a technique that is clearly superior to computerized tomography or magnetic resonance imaging for the detection of wall infiltration, providing correct assessments of T3 states with parietal invasion and the optimal line of approach.

#### Transplant

The aim of the study by Almenar et al.<sup>42</sup> was to understand the role played by interleukin-8 (IL-8) concentrations in BAL of lung donors in the development of primary lung graft dysfunction. The authors analyzed twenty patients that received bilateral lung transplants, and concluded that elevated IL-8 concentrations in the BAL of the donor lungs caused a greater time spent on assisted ventilation for the transplant recipient and favoured the development of primary lung graft dysfunction. In some optimally classified donors, subclinical pulmonary lesions could have existed, whose expression would be an elevated IL-8 concentration in BAL, which would be worsened after ischemia and subsequent reperfusion of the graft. Miñambres et al.<sup>43</sup> published their results on lung transplants in patients with emphysema, analyzing risk factors associated with mortality on short, mid, and long term levels in transplant recipients. Mortality was associated with surgical suture dehiscence, time spent on mechanical ventilation in the ICU, duration of the intervention, and unilateral transplants.

Short-term risk of mortality, use of extracorporeal circulation, and the need for hemofiltration techniques all increased in the ICU. Recipient age was associated with long-term mortality, and the duration of the surgical intervention was associated with short, mid, and long-term mortality. The objective of the study by López Meseguer et al.<sup>44</sup> was to review a series of patients affected with pulmonary hypertension who received transplants over a time span of 10 years, finding that transplant is a good therapeutic option that offers promising results for severe and progressive diseases.

### Diffuse Interstitial Lung Disease

Since a BAL study holds value as a diagnostic aid as it defines typical patterns in certain diffuse interstitial lung diseases (ILD), Jara Palomares et al.<sup>45</sup> performed a descriptive analysis of cytological and lymphocyte population studies in BAL. Theirs was a prospective study on 562 patients with ILD, finding that the CD4/CD8 index was the most useful parameter, with an increase in sarcoidosis and an inverted index in the rest of diseases. Therefore, the authors concluded that BAL information, used along with clinical and radiological data, can be used to differentiate between ILDs.

### Pleura

Cases et al.<sup>46</sup> analyzed the efficacy and safety of a permanent pleural drainage catheter (Pleur X<sup>®</sup>) in the treatment of patients with recurrent malignant pleural effusion, and found that it is an efficient, simple procedure that does not require hospital admission, is easy to manage, and has few complications.

### Bronchiectasis

The objective of the study by Palop Cervera et al.<sup>47</sup> was to analyze the relationship between the intensity of respiratory tract inflammation, as expressed by oxidative stress markers in exhaled air, and the severity of the disease in patients with bronchiectasis not associated with cystic fibrosis. No significant relationship was found between markers in exhaled condensate and clinical/radiological symptoms or quality of life. Only bacterial colonization was associated with higher levels of nitrate in exhaled air and a higher number of exacerbations.

### Respiratory Diseases of Occupational Origin

Tarrés et al.<sup>48</sup> intended to understand the clinical/epidemiological characteristics of a population suffering from asbestos-related diseases from having worked or lived in an environment near an asbestos cement factory. In the study zone, the factory imposed an important risk factor for diseases related to asbestos for the workers and nearby population, with a yearly incidence of 9.5 patients/100,000 (2000-05) in the entire area, and of 35.5 with increasing tendencies in the population that lived closest to the factory.

### Management

Giner et al.<sup>49</sup> aimed to collect representative data on the approach, prevalence, and available resources for the practice of non-invasive mechanical ventilation (NIMV) in both acute and home patients in Valencia. In 88% of hospitals, NIMV for acute patients was performed

in the pulmonology unit, being COPD exacerbations, obesity hypoventilation syndrome, decompensated neuromuscular disease, and kyphoscoliosis the most common diagnostic symptoms. 88% of hospitals had ventilators, 44% of them were bipressure units. Only one hospital had specific shifts for pulmonology, but none had nurse backups for ventilation. 88% of hospitals performed home NIMV, with a monographic ventilation visit performed in 31.3% of hospitals. The authors concluded that they had observed that important human and technical resources were missing, as well as disparities in the materials used and a lack of a support system. Freixinet et al.<sup>50</sup> analyzed the situation of thoracic surgery and performed a forecast of the needs for thoracic surgery specialists. The authors concluded that the specialty of thoracic surgery should moderate the training offer for new thoracic surgeons for at least the next 5 years, although they do acknowledge that thoracic surgery is unequally dispersed throughout the country. The objective of the study by Sala et al.<sup>51</sup> was to describe the activity of a respiratory immediate care unit in a pulmonology department. The authors showed that it is viable to create such a unit in our country, which would allow for the development of a high health care activity rate with a low percentage of therapeutic failures. COPD exacerbations were the most frequent symptom upon entry, with treatment requiring NIMV being the most common admission criteria. Furthermore, the objective of the study by Aburto et al.<sup>52</sup> was to describe the characteristics and result of patients admitted to a respiratory immediate care unit, concluding that patients are older, with highly elevated mortality and comorbidity rates during both hospitalization and at the 3-months follow-up. No significant differences were reported according to the type of care administered to the patients.

### Miscellaneous

In this epigraph we have included those articles that, due to their characteristics, did not fit with any of the previous epigraphs, or were clearly disputed between two of them.

Zaragoza et al.<sup>53</sup> developed and evaluated a quality of life scale for patients with chronic respiratory diseases (QL-PCRD), showing it to be a reliable and valid metric for measuring quality of life in asthma and COPD patients. Similarly, Blanco Aparicio et al.<sup>54</sup> elaborated a Spanish version of the Airways Questionnaire 20 (AQ20), an abbreviated quality of life questionnaire for clinical evaluations of asthma and COPD. Following a translation-retranslation, they obtained a Spanish instrument that was conceptually similar to the original English version that was easy to understand and with proper internal consistency. The objective of the study by Vehmas et al.<sup>55</sup> was to examine the relationship between calcified chest artherosclerosis (by computerized tomography) and several parameters for pulmonary function, finding a significant negative relationship with all parameters studied (FEV1%, FVC%, MEF 50%, total and specific diffusion, FEV1/FVC%) with calcification of the aorta and its branches, except for TLC, which only occur with artherosclerosis in the ascending aorta. The authors concluded that artherosclerosis appears to be related to deficient pulmonary function.

We do not want to conclude this 2009 Archive of *Archivos* without mentioning a specially published article (number 1 of the year 2009) in which Ancochea et al.<sup>56</sup> presented the basis for the design and protocol of a study on the prevalence of COPD in Spain (EPI-SCAN) in the population of 40-80 years old.<sup>57</sup>

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