



# ARCHIVOS DE BRONCONEUMOLOGIA

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Special article

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#### Introduction

As in previous years,<sup>1,2</sup> our journal has been of a high standard and has had considerable influence; this is shown not only by an acceptable impact factor but also by other indicators of influence, as can be seen from the website of the Eigenfactor score<sup>3</sup> (source of metric data on international scientific journals, based on journal citation reports and the application of Google relevance algorithms). This website provides annual data from 1995 to 2006 on the 7000 journals included in the journal citation reports and on many other sources cited by them. It presents themed classifications using 2 indicators: the Eigenfactor, an indicator of global influence or repercussion based on iterative calculation of citations received by a journal from more or less cited journals, and the *Article Influence* factor, which measures the mean influence of the journal articles and is based on the same iterative calculation as the Eigenfactor but takes into account the number of articles from the journal; *Archivos de Bronconeumología* is ranked 34 among journals on the respiratory apparatus.

In 2008, *Archivos de Bronconeumología* published 57 original articles, which, in an effort to preserve the format of previous years, we will comment on below.

#### Chronic Obstructive Pulmonary Disease

With the aim of obtaining information on the treatment of chronic obstructive pulmonary disease (COPD), López Varela et al<sup>4</sup> evaluated preventive measures, medication used, and possible associated factors. Using a broad sample, they identified a large group of patients in whom the disease had been diagnosed at different levels of severity and of whom only 11.3% had been diagnosed previously. Interestingly, only half of those diagnosed with COPD had previously received medical advice on smoking cessation whereas this advice had been received by 69% of those who had been previously diagnosed with COPD. The use of drug therapy increased with the severity of the disease and was associated with previous diagnosis and symptoms such as wheezing and dyspnea. Martínez Francés et al<sup>5</sup> evaluated determining factors of baseline dyspnea in patients diagnosed with COPD and its effect on health-related quality of life (HRQL). They found that baseline dyspnea was determined by anxiety (17% of variance explained), maximum inspiratory pressure (4%), and PaO<sub>2</sub> (4%). In mild-to-moderate COPD, HRQL was essentially determined by anxiety (43% of variance), whereas in severe COPD, baseline dyspnea was the principal determining factor of HRQL. The authors therefore conclude that the fundamental determinant for HRQL in COPD is anxiety, which is mediated by dyspnea induced by effort and by baseline dyspnea. The objective of the study by Lucas Ramos et al<sup>6</sup> was to analyze the prevalence of risk factors and cardiovascular comorbidity in a population with COPD. This was a concurrent

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multicenter, cross-sectional study that included 572 patients with confirmed diagnosis of COPD. Hypertension was reported in 53%, obesity in 27%, dyslipidemia in 26%, and diabetes in 23% of the patients, although these factors were not associated with the severity of COPD; however, the condition tended to be worse in older patients. Similarly, vascular comorbidity (ischemic cardiopathy [16.3%], acute cerebrovascular disease [7%] and peripheral vascular disease [17%]) was not associated with COPD severity, but such an association was reported for age and traditional risk factors.

Elsewhere, Güell et al<sup>7</sup> showed that an unsupervised home pulmonary rehabilitation program produced similar improvement to that of patients in an intensive hospital-based rehabilitation program, although the emotional aspect of an HRQL test showed greater benefits in the hospital-based program. Martínez Llorens et al<sup>8</sup> showed that, in patients with severe COPD, the intercostal muscle has a stable population of satellite cells (which play an essential role in muscle repair and regeneration processes), whose activity is found to be increased. Findings indicating microstructural damage were observed, which, in conjunction with a conserved fiber phenotype, indicate successful repair of intercostal muscle.

### Sleep Disordered Breathing

Ciftci et al<sup>9</sup> published a study in which they compared sleep and breathing parameters during the first 3 hours of the night and obtained the minimum values for these parameters during the rest of the night and the sleep period. The authors found that the diagnosis during the first 3 hours of sleep is reliable as it reflects what happens throughout the night; they also found that the optimum positive respiratory pressure determined during the second half of the night is also optimum with respect to determination of the first phase. To try to increase the level of clinical suspicion of sleep apnea-hypopnea syndrome (SAHS) among primary-care physicians, Martínez García et al<sup>10</sup> analyzed the impact of a training program aimed at these physicians in the quantity and quality of hospital referrals due to suspected SAHS. After providing training and information on SAHS, together with a protocol-guided referral form and direct contact with the hospital sleep unit, the program was shown to be effective when performing referrals due to suspected SAHS. Alonso Álvarez et al<sup>11</sup> assessed the reliability of home respiratory polygraphy (HRP) in diagnosing SAHS and they compared the costs of this technique with those of polysomnography. The authors point out that, although the doubtful cases require polysomnography, HRP is generally a reliable method for diagnosing SAHS and has lower costs than polysomnography. Furthermore, after evaluating the diagnostic utility of respiratory polygraphy in children, Alonso Álvarez et al<sup>12</sup> found an agreement in diagnosis between this test and polysomnography of 84.9% (they defined a diagnosis of SAHS as an obstructive apnea-hypopnea index [OAHl] of 3 and a respiratory event index [REI] of 3) but found no significant differences between the 2 techniques with regard to the differences of mean OAHl and REI. The interclass correlation coefficient of the OAHl and the REI was 89.4%. In order to evaluate the clinically significant OAHl value, the authors used the 3 values most commonly referenced in the literature (1, 3, and 5) and determined that the best REI value for the 3 OAHl values was 4.6 (point of greatest specificity), although differences were found after stratifying by age (in children of 6 years of age or older, the best REI value was 2.1 and the following REI values were obtained in children under the age of 6 years: 3.35 for OAHl = 1, 5.85 for OAHl = 3, and = 5).

Jurado Gámez et al<sup>13</sup> assessed the prevalence of sleep disorders in patients on a waiting list for kidney transplant compared with a control group and found that these disorders are frequent in patients awaiting a kidney transplant. These patients experienced less quantity and quality of sleep and a significantly higher number of respiratory events than the control group.

It is also known that SAHS has important cardiovascular consequences, such as heart failure. The myocardial performance index (the relationship between the systolic and diastolic functions of the ventricle) is independent of heart rate and blood pressure. This index increases in the event of systolic or diastolic ventricular dysfunction. Moro et al<sup>14</sup> found that SAHS, of itself, causes left ventricular hypertrophy, a higher percentage of patients with abnormal diastolic function, and a tendency toward decreased systolic function with a higher myocardial performance index. Continuing with SAHS and its association with the activation of cardiovascular risk mechanisms, Sánchez et al<sup>15</sup> aimed to determine the factors of SAHS that activate cardiovascular risk factors by studying serum concentrations of the N-terminal fragment of the brain natriuretic peptide precursor and of the high-sensitivity C-reactive protein (CRP), and the effect of treatment with nasal continuous positive airway pressure (CPAP) on these concentrations. The main factor that affected concentrations of the N-terminal fragment of the brain natriuretic peptide precursor was the percentage of time with a nocturnal PaO<sub>2</sub> of less than 90%; however, no predictive factors were found for serum levels of high-sensitivity CRP. Concentrations of the biomarkers fell, though not significantly, when nasal CPAP was applied.

Roldán et al<sup>16</sup> evaluated the cost-effectiveness of automatic graduation of domiciliary CPAP for 1 or 2 consecutive nights in patients with SAHS. They found that automatic graduation of domiciliary CPAP on the first night was effective in 85% of patients. The second night allowed effective graduation in 3% of patients in whom the procedure had failed on the previous night, with an equivalent cost. Variability in the pressures obtained on both nights was not significant and agreement between the 2 observers in the visual selection of the optimum pressure on each night was good. The authors thus concluded that, in most of the patients with SAHS, domiciliary graduation on a single night can be achieved with a higher level of cost-effectiveness. Roue et al<sup>17</sup> analyzed the effect of sex on the clinical and polysomnography variables of SAHS; to this end, they designed a multicenter study in which they found that women had higher age, weight, and hip circumference, and a smaller neck circumference than men. No large between-sex differences were found in the clinical or polysomnography values, though higher sleep latency and more marked nocturnal hypoxemia were found in women.

### Pathophysiology

Piriz et al<sup>18</sup> observed that the use of  $\beta_2$  adrenergic agonists, such as salbutamol, improved diaphragm function during experimental sepsis, as it increases heart rate while reducing mean blood pressure, as well as improving muscle contraction force, both before and after a muscle-fatigue protocol. Reinforcing the idea of the importance of using prediction equations specific to each population, González Barcala et al<sup>19</sup> obtained their prediction equations from spirometry parameters in healthy children and adults in the autonomous region of Galicia, Spain. Gea et al<sup>20</sup> who evaluated changes in maximum pressure generated by the diaphragm following different series of spontaneous and near-maximum isometric contractions, found that the previous effort of the muscle determined the contraction capacity of the diaphragm; they also found that it is difficult to predict the predominance of fatigue or potentiation of the response.

### Asthma

Muñoz et al<sup>21</sup> evaluated a group of patients diagnosed 3 years earlier with occupational asthma due to persulfate salts in order to study the course of bronchial hyperreactivity (BHR) and the outcome of immunological tests. When the course of the patients was

followed-up, 7 of them were no longer exposed to persulfates and 3 showed a significant improvement in BHR; this was not true for the patients who continued to be exposed to persulfates. Skin-prick tests became negative in 3 patients who were no longer exposed. The clinical condition of most of the patients had improved although symptoms persisted. The authors therefore concluded that the course of the patients appears to be favorable if exposure to persulfates is avoided. Rodríguez Trigo et al<sup>22</sup> evaluated the effect of appropriate outpatient treatment for asthma following the guidelines of the Global Initiative for Asthma (GINA) in the long-term course of near-fatal asthma. They carried out an intervention study to compare an intervention group with a historical control group. No deaths were recorded in the intervention group (6 deaths were recorded in the control group), the number of near-fatal asthma attacks, visits to the emergency department, and hospital admissions were lower, and the eosinophil counts decreased significantly and forced expiratory volume increased, thus confirming that following the GINA recommendations reduces morbidity and mortality. Plaza et al<sup>23</sup> performed a study to determine the knowledge, attitudes, and adherence of Spanish health care professionals with respect to the Spanish Guidelines for Asthma Management. They found that working in central and southern Spain, working in primary care, low conviction regarding or ignorance of the guidelines, and not using spirometry were associated with poorer adherence to the guidelines.

The aim of the study by Morell et al<sup>24</sup> was to determine the incidence and clinical characteristics of asthma exacerbations seen by emergency services in Barcelona, Spain. In a prospective study, the authors found an incidence of asthma exacerbations of 0.53 per 100 000 inhabitants or 8.2 per 100 000 asthmatic patients. Patients with moderate to near-fatal asthma were predominantly women, whereas those with mild asthma were predominantly men. In most cases, exacerbations presented a slow onset. The rate of hospital admissions was 0.1 per day per 10<sup>5</sup> inhabitants and correlated with the severity of the asthma. Only 31% of the patients regularly used inhaled corticosteroids and only 12% had taken oral corticosteroids before visiting the emergency department. Thirty percent of patients were admitted to hospital. Onset of exacerbation was acute in a quarter of cases and sudden in 5%; 16% of episodes were severe and 3% near-fatal. The authors indicate that underdiagnosis is a considerable problem and that the rate of hospital admissions is directly related to the severity of the asthma.

Perpiñá Torderá et al<sup>25</sup> performed a prospective observational multicenter study in order to define the assessment capabilities of the FSI-10 (Feeling of Satisfaction with Inhaler) questionnaire, which evaluates satisfaction with the inhaler, and to use it to compare the level of satisfaction and preference of asthmatic patients with regard to 3 corticosteroid inhalers: Turbuhaler, Accuhaler, and Novolizer. The FSI-10 was easily understood and rapidly completed, and had acceptable assessment capabilities. Although acceptance of the inhalers was acceptable, Turbuhaler and Novolizer obtained a higher score than Accuhaler, although the differences were not statistically significant. Turbuhaler scored highest among patients over the age of 16 years and Novolizer scored highest in patients below this age.

Lloris Bayo et al<sup>26</sup> performed a prospective study to determine the frequency of exaggerated bronchoconstriction in patients with asthma following the application of a shortened bronchial challenge test (shortened because the test was initiated with higher doses than those recommended in the initial protocol), and to determine whether the fraction of exhaled nitric oxide can be used to quantify exaggerated bronchoconstriction. With the shortened method, the frequency of exaggerated bronchoconstriction was 30% and the concentration of exhaled nitric oxide was higher in the group that suffered these episodes. The cutoff for exhaled nitric oxide chosen was 19.5 ppb, which made it possible to safely perform the shortened

test. In an interesting study, Martínez Moragón et al<sup>27</sup> showed a relationship between adherence to treatment and the perception of dyspnea as dyspnea (specifically, hyperperception of dyspnea) is one of the reasons asthmatic patients fail to adhere to treatment. In the follow-up of 2 groups of patients, one of children and one of adults, Pereira Vega et al<sup>28</sup> performed a second evaluation of the changes in wheezing, BHR, and asthma, the course of forced expiratory volume in 1 second, and the annual incidence of asthma. They found more new appearances of wheezing and BHR than remissions, in both children and adults. Children had a 3.3-fold higher incidence of asthma than adults and the annual loss of lung function was higher in adults who had presented wheezing and asthma. With a similar objective to the previous study, Casas et al<sup>29</sup> determined the incidence of asthma in the adult population, along with lung function and immunologic characteristics, causes, and clinical course of the disease. They found an annual incidence of 160 new cases of asthma per 100 000 inhabitants. Asthma or wheezing in the previous year was reported by 92% of patients and 41% presented atopy. In 14% of the patients, asthma was work-related and the strongest association was with house-cleaning. Factors for chronic asthma were atopy and a risk occupation.

Finally, a prospective epidemiologic study by Castillo Vizuete and Molló Mirte<sup>30</sup> analyzed the prevalences and characteristics of rhinitis in patients with asthma. Rhinitis was presented by 71% of patients; these were younger patients with less severe asthma than that of patients without rhinitis. The severity of the asthma correlated with the severity of the rhinitis and atopy was associated with rhinitis. Treatment of rhinitis was associated with an increased forced expiratory volume in 1 second.

## Oncology

Jiménez et al<sup>31</sup> analyzed survival in a group of patients with N2 involvement discovered during or after lung resection for non-small cell lung cancer. The authors found that the type of resection did not affect survival and that the number of affected lymph nodes did not have a significant effect on survival, although when only 1 lymph node was affected, the mean survival rates were different for lobectomy and pneumonectomy; there were no differences between these survival rates when more than 1 N2 lymph node was affected. Furthermore, survival was higher ( $P=.01$ ) in the group of lobectomy patients who had received adjuvant therapy, but this was not the case of patients who underwent pneumonectomy with adjuvant therapy. Cayuela et al<sup>32</sup> analyzed the evolution of mortality from lung cancer over an extensive period of time, from 1980 to 2005. The authors found that the mortality rates in men began to fall 15 years ago, whereas mortality rates in women increased markedly in the same period (6.3% per year). In lung metastasis surgery, Ayarra et al<sup>33</sup> evaluated the prognostic factors for survival in a series of patients who underwent surgery for pulmonary metastases from primary tumors in distinct organs. The actuarial survival at 6 years was 30.3% and the median survival was 34 months. Prognosis was affected by the number of metastases (with fewer than 4 metastases, mean survival was 38 months), diameter (mean survival of 37.2 months for tumors with a diameter <3.5 cm), affected lymph nodes, complete surgery, and, especially, histologic type (germ-cell tumors presented the best response and melanoma the worst).

The ERBB2 oncogene is the second member of the epidermal growth factor receptor family that codes for the p185 protein and acts as a receptor tyrosine kinase, which is associated with multiple transduction pathways. This oncogene has been found to be overexpressed in different tumors, including lung cancer and it has been suggested that it may be a factor for poor prognosis. In a series of small cell lung cancers, Cebollero Presmanes et al<sup>34</sup> evaluated the prevalence of overexpression of the ERBB2 oncogene by means of

immunohistochemistry and fluorescent in situ hybridization. When the prevalence was correlated with potential prognostic implications, the authors found that the oncogene was associated with disseminated disease, which may open the way to new cell and therapeutic routes.

## Tuberculosis and Cystic Fibrosis

### Tuberculosis

The objective of the study by Río Camacho et al<sup>35</sup> was to determine the prevalence of tuberculosis in a school-going population and to analyze the associated sociodemographic variables. After screening for tuberculin in children in the first year of primary school (6 years of age), the authors found a prevalence of tuberculosis infection of 1.16% (95% confidence interval, 0.62%-1.63%) in the group not vaccinated against tuberculosis and 6.66% in the vaccinated group. There were no statistically significant differences between the 2 groups for the variables analyzed. Tost et al<sup>36</sup> carried out a study to determine whether isoniazid- and/or rifampicin-free antituberculosis treatment regimens are safe and effective and to identify any factors that might require changes in the regimens. The most common reason for omitting isoniazid or rifampicin was toxicity, followed by resistance to the drugs. Rifampicin-free regimens were most common (42%). A change in the regimen was required in 30% of cases. The rate of toxicity with these regimens was higher, although progress was always satisfactory and 77% of the patients were discharged. The diagnosis of tuberculosis in patients with negative acid-fast bacillus smears poses a challenge to both clinicians and public health authorities. In an attempt to aid diagnosis in such cases, an expert committee was established in Ciudad de La Habana, Cuba. Sevy Court et al<sup>37</sup> presented the results of this committee, showing that its work is viable, sustainable, and useful for preventing overdiagnosis and inappropriate treatment, and that it also serves an educational purpose. The validity and reliability of the data was improved by the standardization of data registry.

### Cystic Fibrosis

Maiz et al<sup>38</sup> performed a study to analyze the clinical significance of *Aspergillus fumigatus* and *Candida albicans* in respiratory secretions from patients with cystic fibrosis and assess the specific humoral immune response of immunoglobulins G, A, and M to these fungi. They found higher concentrations of immunoglobulins G, A, and M against *A. fumigatus* and *C. albicans* in these patients than in the control group. There was no correlation between the presence of *A. fumigatus* in respiratory secretions and the immune response to the fungus, though this correlation did exist with *C. albicans*. They also found that the likelihood of obtaining *A. fumigatus* cultures from sputum increased with age in these patients but that the presence of both fungi in sputum was not a risk factor for increased deterioration. After investigating the association between chronic colonization or infection by *Pseudomonas aeruginosa* and BHR in a group of patients with cystic fibrosis, Valverde Molina et al<sup>39</sup> found a significant association of BHR with chronic colonization or infection by *P. aeruginosa* ( $P < .001$ ), but not with atopy. Patients with BHR scored significantly worse on clinical and radiological scales and had poorer lung function. Among the patients with normal lung function, bronchial hyperreactivity was also associated with chronic colonization or infection, but not with atopy. The association between BHR and colonization was also found in patients without atopy. Based on these results, the authors concluded that, in patients with cystic fibrosis, BHR may

be associated with colonization or infection with *P. aeruginosa*, a more important risk factor than atopy. To determine the prevalence of environmental mycobacteria in patients with cystic fibrosis, Girón et al<sup>40</sup> isolated *Mycobacterium avium complex* and *Mycobacterium fortuitum* in 220 patients. No differences were found in the clinical values of patients with or without environmental mycobacteria. The prevalence of these mycobacteria was not very high (7.72%), which may have been due to interference by azithromycin (taken by 23.6% of patients).

## Diagnostic Techniques and Lung Transplant

### Diagnostic Techniques

Martínez Olondris et al<sup>41</sup> analyzed the diagnostic yield and cost-benefit of transbronchial needle aspiration in mediastinal staging of lung cancer. They concluded that the technique has a high diagnostic yield (sensitivity, 88%; specificity, 100%; positive predictive value, 100%; and negative predictive value, 64%) and is cost-effective as it avoids the use of mediastinoscopy. Galvis Caravajal et al<sup>42</sup> reported their initial experience in the treatment of primary malignant and metastatic lung lesions by means of radiofrequency ablation. According to the authors, this technique may offer a safe and minimally invasive option with low mortality for the treatment of malignant lung lesions in appropriately selected nonsurgical patients. The objective of the study by Bruno de Lema et al<sup>43</sup> was to compare unilateral lung function values obtained by electrical impedance tomography with those obtained by ventilation-perfusion scintigraphy in a group of patients diagnosed with lung cancer who were candidates for resection. They found that electrical impedance tomography is a simple procedure that makes it possible to quantify unilateral lung function with accuracy similar to that of ventilation-perfusion scintigraphy.

### Transplant

The objective of the study by González Castro et al<sup>44</sup> was to analyze the incidence of mortality in patients who underwent lung transplant according to the level of kidney failure they developed in the postoperative period (30 days, 6 months, and 1 year after transplant). They found no association between mortality after 1 month (immediate postoperative period) and the level of kidney failure according to the chronic kidney disease (CKD) scale on admission to hospital in patients with normal renal function and those with some degree of renal failure. No correlation was found between the CKD score on admission and the score after 1 month, 6 months, or 1 year. However, the CKD score after 1 month was associated with the CKD score after 6 months and 1 year. Laporta et al<sup>45</sup> found that, in their department, patients who most frequently required transplant were those with COPD (34%), pulmonary fibrosis (29%), and bronchiectasis (21%). Most of the patients scheduled for transplant were men, with an overall mean age of 45 years, 54% were functional in class III, and a high percentage presented pulmonary hypertension. Survival results led the authors to delay indicating transplant in obstructive processes, whereas suppurative and restrictive diseases were indicated for transplant earlier.

### Circulation

Baloira et al<sup>46</sup> carried out a study to determine the frequency of association between idiopathic pulmonary artery hypertension (PAH) and mutations in the gene encoding bone morphogenetic protein receptor 2 (BMPR2), which acts as a receptor for members of the transforming growth factor  $\beta$  superfamily (TGF- $\beta$ ). They found that mutations in BMPR2 are not infrequent in patients with

idiopathic PAH. This is suggestive of a genetic basis in some of these patients and supports a role for members of the TGF- $\beta$  superfamily in the pathogenesis of the disease. De Gregorio et al<sup>47</sup> reported their experience in treating PAH following stroke using minimally invasive endovascular techniques (angioplasty and metal stents). In cases where surgery was not indicated, they used invasive techniques to improve PAH and the results were satisfactory in 100% of patients, with few complications, except for 1 death due to unknown causes. Functional classification improved in all cases (improved hemodynamics and morphology).

De Gregorio et al<sup>48</sup> used a sheep model to study the feasibility and safety of removing retrievable Günther-Tulip vena cava filters 90 days after their implantation. They found that the filters could be removed safely and easily, without much effort. Finally, Jiménez et al<sup>49</sup> showed that mean anti-Xa activity declined with increased body mass index quartiles. After adjusting for age, sex, and creatinine levels in plasma, this index was the only predictive variable for insufficient anti-Xa activity. They therefore concluded that anti-Xa activity is dependent on BMI in hospitalized acute medical patients receiving enoxaparin for thromboprophylaxis.

### Pleura

Haro Estarriol et al<sup>50</sup> showed that the method used to obtain pleural fluid does not significantly alter or affect the clinical relevance of the pH or PaCO<sub>2</sub> of the fluid. The absence of between-method differences in the pH and PaCO<sub>2</sub> of the pleural fluid indicates that the method used to obtain the fluid does not affect these values.

### Interstitial Lung Disease

Morell et al<sup>51</sup> studied 500 consecutive patients to determine rates of definitive diagnosis by applying current diagnosis recommendations for interstitial lung disease and consensus classifications regarding idiopathic interstitial pneumonia. They established a definitive diagnosis in 427 patients (85%), of which 302 diagnoses were achieved using noninvasive procedures; no diagnosis was established in 14.6% of patients. The predominant diagnosis was idiopathic interstitial pneumonia (39%). By specific entities, the diagnosis was sarcoidosis in 19%, usual interstitial pneumonia in 17%, and hypersensitivity pneumonitis in 15%. The direct diagnostic yield of transbronchial biopsy was 38%; however, when the technique was used to rule out other specific diagnoses, the yield was 50%. Bronchoalveolar lavage had a yield of 5% and that of surgical lung biopsy was 93%. Thus, following the current protocol, the authors established a definitive diagnosis in a high percentage of patients; diagnosis was established using only clinical data in a quarter of patients and using invasive procedures in 60% of patients.

### Thoracic Surgery

In this section, we have included the articles published in *Archivos de Bronconeumología* that deal with thoracic surgery techniques. Cerrón Navarro et al<sup>52</sup> analyzed their experience in ruptured diaphragm and the predictive factors associated with mortality. They concluded that ruptured diaphragm is a rare entity that occurs in young men, particularly due to traffic accidents, and that it is more frequent on the left side. The factor that most affects morbidity and mortality is the presence of associated lesions.

Freixenet et al<sup>53</sup> reviewed their experience in thoracic trauma in order to establish severity criteria; they found that markers of severity were the number of rib fractures, multiple trauma, lung contusion, the need for mechanical ventilation, and cardiorespiratory repercussion. Neither age nor hemothorax were found to be markers of severity.

### Nursing

Valero Marco et al<sup>54</sup> performed a study to determine the attitudes and prejudices of nurses and student nurses regarding the use of local anesthesia in arterial puncture. They concluded that the use of anesthesia is rare among nurses and student nurses. Knowledge of performing blood gas analysis is insufficient.

### Management

Broquetas et al<sup>55</sup> analyzed the impact of a short-stay pneumology unit on the quality of patient care in the respiratory medicine department of a tertiary hospital. They found that the unit can improve the efficiency of respiratory care by reducing the mean length of hospital stay and the rate of readmission without reducing the level of complication of the diseases treated or requiring additional resources. Carrera et al<sup>56</sup> analyzed the impact on care and clinical management of 24-hour on-site coverage in a respiratory medicine department. They found this coverage to be an efficient measure that speeds up the rotation of admitted patients and improves the progress of patients through outpatient diagnosis and treatment programs. Vilà et al<sup>57</sup> performed a study to determine the anesthetic and postoperative characteristics of patients who underwent thoracic surgery in Catalonia in 2003. The anesthetic procedures studied represented 0.7% of the anesthetic workload; 75.4% were performed in public hospitals and 24.6% in private hospitals. The median age of patients was 55 years and 63.9% were men. The procedures were scheduled in 92.8% of cases, of which 74.3% involved general anesthesia; postoperative recovery took place in a conventional recovery room in 54.4% of cases, in a postanesthetic intensive care unit in 33.3% of cases, and in an intensive care unit in 12.3% of cases.

### Miscellaneous

After analyzing the relationship between plasma concentrations of tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ) as a marker of systemic inflammation and the severity criteria commonly used in patients with bronchiectasis in a stable clinical state, Martínez García et al<sup>58</sup> found higher concentrations of TNF- $\alpha$  in patients with bronchiectasis than in controls; these values correlated with other systemic inflammation factors (erythrocyte sedimentation rate, PCR, and percentage of peripheral neutrophils). Moreover, patients with high concentrations of TNF- $\alpha$  presented more extensive disease, a higher probability of presenting respiratory failure, and a higher percentage of colonization by *Pseudomonas* species.

Rabell Santacana et al<sup>59</sup> performed a descriptive, cross-sectional multicenter study to analyze the age-related factors that may condition the use of and administration technique for inhaled drugs. They found that tests readily administered in daily practice to detect age-related deterioration may not accurately predict optimal use of inhaler devices.

To determine the reference values for nasal mucociliary transport time using the saccharine test, Plaza Valía<sup>60</sup> designed an observational, descriptive cross-sectional study, in which they concluded that, in addition to providing reliable information on mucociliary function, the saccharin test is easy to do, inexpensive, and reproducible.

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