Arch Bronconeumol. 2009;**45(6)**:306-310

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Letters to the Editor

Asthma Control: From Myth to Reality

El control del asma: del mito a la realidad

To the Editor:

One of the definitions given for the word *myth* in the Spanish *Diccionario del Español Actual*,[1] is a "magnified image or concept of someone or something." In my opinion, this definition appropriately reflects the general feeling about asthma control. Ten years ago, Barnes and Woolcock[2] published an article on difficult asthma in the *European Respiratory Journal*; they reported that only 1 out of 20 patients failed to respond to doses of 2000 μg/d of inhaled corticosteroids and that it was precisely this small group of patients who were studied in specialist units. A year later, the Asthma Insights and Reality in Europe (AIRE)[3] study on asthma control in Europe reported discouraging findings: of 73 800 patients with asthma surveyed about their disease by telephone, 63% used quick-relief medications and only 23% used inhaled corticosteroids. Although more than 15 years have gone by since the Global Initiative for Asthma (GINA)[4] emerged in 1993 as a standard intended to improve asthma control, its success has been limited. This is evident in patients in terms of perception of asthma, poor inhaler technique, and poor treatment adherence, but also in physicians, 36% of whom, according to a recent publication in *Archivos de Bronconeumología*, were revealed to have stated that they did not follow or failed to follow closely the GINA-derived Spanish Guidelines for Asthma Management (GEMA).[5] Further evidence of the state of asthma control in Spain was provided in reports given in Poster Session 110 (which I chaired) of the May 2008 congress organized by the Spanish Society of Pulmonology and Thoracic Surgery (SEPAR). This particular session, which addressed the epidemiology of asthma, featured 5 studies on hospital admissions, intensive observation admissions, asthma mortality, and asthma incidence in adults, and also a study that provided a descriptive analysis of the asthma population for a particular health care area. In the ensuing discussion, 3 major issues for reflection were proposed, summarized as follows: *a)* the use of inhaled corticosteroids is less than optimal (1 study found that 45.9% of patients with asthma who were admitted to an intensive observation unit did not use inhaled corticosteroids and another study found that 73.9% failed to use inhaled corticosteroids even though they had severe asthma); *b)* smoking is barely mentioned in the guidelines, yet was a factor in 67.3%, 50%, and 49.5% of patients in series that analyzed this factor); and *c)* there is general confusion regarding use of the GEMA guidelines in medical practice—not regarding the use of corticosteroids as such but regarding the implementation of basic principles that achieve good asthma control—which can only be said to be poor. For example, 78% of patients with asthma had no written self-management plans and 85% had not been provided with information on their disease. No mention was made of inhaler technique or adherence to inhaler treatment, which is widely debated in view of the lack of information in this regard in the guidelines.[6]

Outside Spain, the situation is little better. A recent European study of 1241 adults with asthma estimated that 6 out of 7 failed to achieve good control due to suboptimal treatment.[7] In the United States of America, Wolfenden et al,[8] who studied more than 4000 patients with asthma, found that 32% of those with severe disease and 47% of patients with moderate disease did not adhere to corticosteroid therapy. In the light of this reality, the actual usefulness of asthma guidelines merits commentary. In my opinion, the GINA guideline has 2 defects, as far as primary care physicians—who monitor and refer a large proportion of patients with asthma—are concerned. First, it is confusing with regard to inhaled corticosteroids, the therapeutic mainstay for all persistent asthma cases. Inhaled corticosteroids are largely administered along with long-acting β_2-agonists, but the evidence for prescription quantities and potential associations is not easily understood. Consequently, what we should do, perhaps, is simply emphasize treating patients with the amount of inhaled corticosteroids needed to achieve control. Second—and assuming antiinflammatory treatment has been properly applied—more attention needs to be paid in the guideline to factors that can worsen asthma control, such as smoking (which inhibits the effect of corticosteroids[9]), poor treatment adherence, and poor inhaler technique. Patient learning, for example, is particularly important, because using inhalers requires the patient to develop expertise (in fact, in the issue of patient expertise in administering a treatment, the field of pulmonology is similar only to the endocrinology field, where patients with diabetes need to learn how to administer insulin correctly).

In view of the above arguments, several principles urgently need to be taken aboard: *a)* great care should be taken when a patient with asthma consults a primary care physician, in terms of implementation of GEMA treatment stages, appropriate patient care, and supervision of adherence to therapy, and *b)* patients should, if necessary, be referred to a specialist asthma outpatient clinic to assess the above 3 aspects, leaving it in the hands of the asthma specialist to deal with the question of why a patient's asthma is not being controlled. In other words, leave it to the asthma specialist to deal with the 1 in 20 patients with difficult asthma referred to earlier, for whom 2000 μg/d of inhaled corticosteroids is insufficient. Follow-up protocols should also be drawn up to ensure visits every 3 months (the shortest period mentioned in all guidelines) to decide whether to taper down antiinflammatory treatment (if asthma control is achieved) or whether to discontinue treatment (provided the patient has been symptom-free for a year). The question is: how many physicians follow this procedure?

One final comment on the peculiar physiology of asthma inflammation might prove to be enlightening, namely, the need for daily medication should be driven home in the treatment of persistent asthma. Patients need to be made aware that, although they might be asymptomatic, the indications are that bronchial

hyperresponsiveness is only resolved after many months. In most patients, asthma appears to be readily manageable if the patient agrees with and works with the physician. The opposite is no less true, however, and is likely to lead to a less than desirable outcome. Every attempt should be made to determine why asthma control levels are the same if not worse than 15 years ago—despite the immense efforts made in research. Do you happen to know of a physician who attends a patient with asthma and, after prescribing inhaled corticosteroids, says, "Please come back in a year?"

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Diagnostic Yield of Culture for Mycobacteria in Tuberculous Pleural Effusions

Rendimiento diagnóstico del cultivo de micobacterias en derrames pleurales de origen tuberculoso

To the Editor:

One of the most common causes of pleural effusion in our hospital is pulmonary tuberculosis. However, it is not always easy to confirm the tuberculous origin. The gold standard technique for confirmation is still pleural biopsy together with culture of pleural fluid sent to the microbiology laboratory, where both conventional media and specific media for mycobacteria are used. Growth of mycobacteria is typically poor,[1] with very variable isolation rates, between 8.5%[2] and 35%,[3] depending on the study, although it has not been clearly established in our hospital.

We performed a retrospective study in the microbiology laboratory of Hospital El Bierzo in order to determine the yield of this technique in our practice. All samples of pleural fluid sent to the laboratory over a 17-year period (1992-2008) with a request for culture and microscopy for mycobacteria were included in the study. There was a total of 1440 samples of pleural fluid from different patients. The samples were centrifuged; the sediment was seeded onto Lowenstein-Jensen and Coletsos media and fluorescent staining was performed. After the incorporation of automated mycobacterial culture in liquid media into our routine practice in 2002, the samples were also inoculated into liquid media.

The fluorescent stain gave a very low yield (0.0007%), being positive in only 1 case. Solid and liquid media mycobacterial cultures were positive on a total of 36 occasions, constituting 2.5% of all pleural fluid samples received for mycobacterial culture (Table). Growth of colonies occurred between the second and fifth weeks of incubation in solid media in the majority of cases (64%). Growth did not occur until the eighth week of incubation in 5 cases, in which only 2 or 3 colonies were observed. The number of colonies was usually very low, with only 1 colony in 28% of positive cases, and fewer than 10 colonies in 50%. This seemingly unimportant situation delayed the identification process, determination of the antibiogram, and sending the tests results to the physician. It should be noted that pleural fluid was the only respiratory sample from which *Mycobacterium tuberculosis* colonies grew in the majority of patients, indicating that culture of sputum and other samples was negative in almost all cases.

Table
Results of Culture and Microscopy for *Mycobacterium tuberculosis* in Pleural Fluid Samples Received in Hospital El Bierzo Over a 17-Year Period (1992-2008)

	No. of Cases	%
Pleural fluid samples from different patients	1440	100
Positive microscopy	1	0.0007
Positive cultures	36	2.5
Growth of 1 colony	10	28
Growth of <10 colonies	18	50
Growth between weeks 2 and 5	23	64
Growth during week 8	5	14

The inclusion of automated incubation in liquid media into our routine practice enabled *M tuberculosis* incubation times to be reduced. However, due to the small number of bacteria present in pleural fluid, the detection times are generally longer than for other types of respiratory samples.

In conclusion, we would like to draw attention to the fact that mycobacterial culture of pleural fluid from an effusion of probable tuberculous origin has a low diagnostic yield due to the small number of mycobacteria present in the fluid. Whenever possible, it should be associated with image-guided pleural biopsy, which achieves higher percentages of mycobacterial isolation.[4] Although other parameters—determination of adenosine deaminase or interferon in the pleural fluid—are more useful for the initial diagnostic and therapeutic decisions, culture is the only method that will confirm the diagnosis and enable the sensitivity of the isolated strains to antituberculosis drugs to be determined.

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