

Case Reports in *Archivos de Bronconeumología*: The Journal's Butterfly Collection

Diego Castillo Villegas

Servicio de Neumología, Hospital del Mar, Institut Municipal d'Investigació Mèdica (IMIM), Barcelona, Spain

The Case Reports section of *Archivos de Bronconeumología* attempts to bring together unusual cases representing a substantial contribution to our understanding of the pathophysiology or other clinical and biological characteristics of a disease. During 2007, 17 cases were published in this section. They dealt with such diverse topics as lung cancer surgery, interventional radiology, and idiopathic interstitial diseases. The objective of this review is to call attention to the main contributions of these cases by summarizing their main observations.

Key words: Review article. Case report. Pulmonary diseases.

La colección de mariposas de *Archivos de Bronconeumología*

“Notas clínicas” es una sección de *Archivos de Bronconeumología* en la que se pretende reunir “casos clínicos de excepcional observación que supongan una aportación importante en la clínica, fisiopatología o biología del proceso”. Durante el año 2007 se publicaron en dicha sección 17 casos que abarcaban aspectos tan diferentes como la cirugía del cáncer de pulmón, la radiología intervencionista o las enfermedades intersticiales idiopáticas. El objetivo de este artículo es resaltar y resumir las principales observaciones derivadas de estos casos clínicos.

Palabras clave: Revisión. Caso clínico. Enfermedades pulmonares.

*Angel Face put his hand on her forehead.
“Every cure is a miracle,” he thought as he touched
her.
“If only I could draw the illness out of her with the
warmth of my hand!”*

Introduction

The considerable progress made in biomedical research in the last century has changed our perception of diseases. As we have come to understand their pathophysiological mechanisms, we have developed more effective ways to combat diseases and many can now be totally or partially cured.

As a result, most inhabitants of Western societies have gradually abandoned the attitude expressed by the character in the above quotation: in the modern era cure is not considered miraculous, but rather scientific.

However, routine clinical practice presents us with occurrences that neither the experts nor their books can really explain. This does not mean that we are seeing multiple daily miracles: it merely shows how little we still know in many fields and alerts us to the need to continue to extend our knowledge.

Such apparent miracles are collected in the Case Reports section of *Archivos de Bronconeumología*. A noteworthy characteristic of each report is that it presents events that are in some way exceptional. We might say they are like those butterflies with long wings and unique colors that have fascinated us since childhood. The purpose of this review is to create a “butterfly collection” with which to review briefly each of the clinical events reported in the journal in 2007, with the final objective of calling attention to those disease processes that still challenge our understanding.

Cancer

Lung Transplantation: Bronchogenic Carcinoma in the Native Lung

A good example of such a challenge that remains is suggested by the case reported by Peñalver et al² in the February issue. The presence of bronchogenic carcinoma in the native lung of a transplant recipient is uncommon. In the series reviewed, it was found in only 2 of the 286

Correspondence: Dr D. Castillo Villegas
Servicio de Neumología, Hospital del Mar, Institut Municipal d'Investigació Mèdica (IMIM)
Pg. Marítim, 25-29
08003 Barcelona, Spain
E-mail: dcastillo@imas.imim.es

Manuscript received July 21, 2008. Accepted for publication July 21, 2008.

cases. This raises a number of unresolved questions, primarily regarding treatment. As the authors well point out in their discussion section, the low incidence of this finding has prevented the development of guidelines. Our present knowledge can only be expanded through new cases.

The authors also emphasize the need to reduce the incidence of this type of complication in view of the scarcity of lung donors. However, the role of new technologies, particularly that of positron emission tomography (PET), in pretransplantation studies has not been clearly defined.

Bazex Syndrome

The association between acral hyperkeratosis and malignancy was first described by Bazex and colleagues³ in 1965, and since then over 130 cases have been reported. Bazex syndrome (paraneoplastic acrokeratosis) is characterized by the presence of scaly erythematous psoriasis-like lesions accompanied by hyperkeratotic lesions affecting mainly the ears (79%), nails (75%), nose (63%), fingers (61%), hands (57%), and feet (50%).⁴ In more than half the cases its presence is associated with tumors located in the digestive or upper respiratory tract. Most importantly, in as many as two thirds of the patients, the skin lesions preceded the diagnosis of malignant disease.

The case reported by Río Ramírez et al⁵ reminds us that Bazex syndrome is rarely associated with lung tumors, but also shows the importance of taking an exhaustive medical history in patients at high risk for developing lung cancer (those with chronic obstructive pulmonary disease, pulmonary fibrosis, etc), as they may present paraneoplastic syndromes secondary to the undiagnosed tumor.

Thoracic Surgery

Pneumonectomy by Pulmonary Metastasis With the Use of Extracorporeal Circulation

Sales et al⁶ open the debate regarding the current indication for pneumonectomy in the surgical treatment of pulmonary metastases. While indications have been established, doubts arise in the course of preoperative evaluation concerning proper surgical approach, acceptable surgical risk, and postoperative quality of life. The authors describe 2 cases in which it was necessary to resort to extracorporeal circulation for the complete excision of metastasis. The success of the operation and the absence of complications at follow-up show that the indications for this procedure are broader than those currently accepted. For this reason, the authors argue that in selected groups of patients the use of cardiopulmonary bypass should be evaluated as an option in order to allow extended pneumonectomy to be performed.

Selective Lobar Blockade Using an Arndt Endobronchial Blocker in 2 Patients With Compromised Lung Function Who Underwent Lung Resection

The Fogarty catheter was first used to produce endobronchial blockade of a single lung in 1981.⁷ Later

Arndt perfected this anesthetic technique for one-lung anesthesia by developing the endobronchial blocker that bears his name.⁸ Guided by a fiberoptic bronchoscope, it makes possible the selective positioning of an inflatable balloon in the bronchial tree through an endobronchial tube, limiting the unventilated area to the area in which surgery is to be performed. In this way, the technique increases alveolar ventilation during mechanical ventilation compared to the conventional system. This could make surgery possible in cases of reduced vital capacity. Espí et al⁹ have shown in 2 cases that the technique can be useful and safe. According to their experience, selective lobar blockade with an endobronchial blocker may constitute an alternative to classic one-lung ventilation in patients with compromised lung function.

Diffuse Lung Disease

Accelerated Phase of Idiopathic Pulmonary Fibrosis

In the few years that have elapsed since the turn of the century, intense effort has been dedicated to reaching a consensus on a correct definition of idiopathic interstitial lung diseases in terms of their clinical, radiologic, and pathologic characteristics. The effort was considered worthwhile on the assumption that accurate classification would lead to progress in the study of the various pathophysiologic processes involved. For too long, processes with different characteristics have been lumped together under the same label, and as a result have been confounded.

The accelerated phase of pulmonary fibrosis has recently benefitted from a similar effort and Collard et al¹⁰ have established some simple diagnostic criteria for it. As a result of this effort, it will be possible to standardize diagnosis and focus research efforts on a single pathophysiologic process that, as Altube et al¹¹ point out, has a mortality rate of more than 80% and about which there is still too much uncertainty.

Early Pleuropulmonary Toxicity Associated With Cabergoline, an Antiparkinsonian Drug

For several years, drugs derived from ergoline (methysergide, bromocriptine, ergotamine, dihydroergotamine, cabergoline, and lisuride) have been associated with pleuropulmonary abnormalities.¹² It has been suggested that ergoline drugs have a profibrotic effect, although the reason for this toxicity has not been established. It may be due to a common metabolite, to the drugs' serotonergic activity, or to their structure. These drugs have been associated with the development of pleural effusion.

The first case of pleuropulmonary toxicity secondary to cabergoline treatment was reported in 1991.¹³ Since then, several similar cases have come to light. One was described by Villavicencio et al¹⁴ this year. As the authors rightly point out in their discussion, cabergoline should be considered a potential causal factor of respiratory disease. However, despite the well-established association between ergoline drugs and pleuropulmonary disease,

diagnosis is often delayed due to low clinical suspicion, even among physicians who frequently prescribe such drugs.

*Polymyositis and Interstitial Lung Disease
With Favorable Response to Corticosteroids
and Methotrexate*

Connective tissue diseases should always be considered in the differential diagnosis of diffuse lung disease. While their clinical, radiologic, and laboratory characteristics have been characterized, particularly for the most prevalent of them such as erythematous lupus or scleroderma, treatment regimens are more varied. Immunosuppressants should be considered first-line drugs in the treatment of interstitial lung disease secondary to connective tissue diseases. However, there have been no randomized controlled trials that show which of them is the best therapeutic option.¹⁵ Physicians therefore generally make their decisions based on their previous experience in the management of the disease and with the side effects of the various drugs, particularly methotrexate, azathioprine, and cyclophosphamide.

*Idiopathic Bronchiolocentric Interstitial Pneumonia:
A New Idiopathic Interstitial Pneumonia*

Idiopathic bronchiolocentric interstitial pneumonia is characterized by the presence of a histologic pattern that is the result of a centrilobular inflammatory process, small airway fibrosis, and absence of granulomas.¹⁶ Such findings have been reported predominantly in middle-aged women with no history of inhalation of the antigens implicated in hypersensitivity pneumonitis. The prognosis is extremely poor due to poor response to immunosuppressive therapy. It is not yet clear whether this histologic pattern corresponds to a separate entity (with its own clinical, radiologic, and histologic characteristics), or to a more aggressive variant of hypersensitivity pneumonitis. This is a challenge for future research.

Vascular Disease

*Occlusion of a Pulmonary Arteriovenous Fistula
With an Amplatzer Vascular Plug*

Over the past 15 years, interventional radiology has progressed considerably. In respiratory medicine, it is therefore now considered to be the treatment of choice for various clinical conditions. The endovascular treatment of arteriovenous fistulas is an example, thanks to its success rate and low incidence of complications. It has been shown, however, that the success of the technique may depend on the material used. Baldi et al¹⁷ have proposed the use of an Amplatzer vascular plug, which has specific characteristics that lower the risk of migration. Furthermore, complete occlusion is possible with the use of a single device, thus lowering costs and reducing the time required. In short, this device may increase the success of the procedure.

Pulmonary Embolism Caused by Elemental Mercury

The first conclusion that can be drawn from the case reported by Lorenzo et al¹⁸ is that suicide attempts with elemental mercury are uncommon, but do occur. The second is that these are usually difficult to diagnose. The clinical picture varies according to the location and number of embolisms in pulmonary circulation. Cases may be asymptomatic or may involve pleuritic chest pain, dyspnea, and dry cough. The radiographic finding is characteristic, consisting of metallic densities (emboli). Treatment consists of administering heavy metal chelating agents, the best of which is dimercaprol. Although symptoms may reappear, the cases reported in the literature suggest that the prognosis is good.

Sleep Disorders

Severe Obstructive Sleep Apnea Syndrome in a Toddler

Sleep apnea-hypopnea syndrome is not a disorder limited to adults. It can also occur in children, in whom it is most frequently characterized by the presence of obstructive hypoventilation, usually caused by anatomic obstruction of the upper airway mainly due to adenotonsillar hypertrophy. Adenectomy or tonsillectomy is considered the treatment of choice in such cases.

León et al¹⁹ reported the case of a 3-year-old child in whom obstructive apneas and hypopneas were the main finding of polysomnography. The severity of the case was apparent from the unusual fact that the patient needed 3 adenectomies before improvement was noted. Three months after the last operation, the patient showed significant relief, although residual apneas and hypopneas persisted. Traditionally, it has been thought that surgery solved the problem, but a recent study showed a considerable rate of recurrence of sleep-disordered breathing a year after surgery.²⁰ Patients should therefore be monitored periodically after the operation.

*Treatment of Central Sleep Apnea Syndrome of
Multifactorial Origin by Home Ventilatory Support*

Llombart et al²¹ used their discussion of a case of central sleep apnea syndrome to give a thorough account of its possible causes: chronic kidney failure, heart failure, and cerebrovascular disease. While it is an uncommon disorder, central sleep apnea syndrome should be considered in the differential diagnosis when patients presenting drowsiness have any of the above-mentioned diseases. Furthermore, the authors suggest that the various therapeutic options available, including home respiratory support, be evaluated on an individual basis.

Miscellaneous

*Prolonged Therapeutic Response to Voriconazole
in a Case of Allergic Bronchopulmonary Aspergillosis*

Bandrés and Muñoz²² describe the case of a patient with allergic bronchopulmonary aspergillosis (ABPA) who had

a favorable response to voriconazole. On the basis of this case, the authors pose a really intriguing question: are the new triazole drugs useful in the treatment of ABPA? A Cochrane review published in 2000 concluded that there was as yet insufficient information to justify the use of azole antifungal agents as a standard treatment of ABPA,²³ but since that time, no studies proving the contrary have been published. As Bandrés and Muñoz argue, there is a need for randomized trials to determine whether voriconazole can be used safely and effectively in the treatment of ABPA.

Balloon Dilatation of the Trachea as Treatment for Idiopathic Laryngotracheal Stenosis

Idiopathic laryngotracheal stenosis is an uncommon condition that generally occurs in middle-aged women. The classic therapeutic option is surgery performed using the technique described by Grillo et al.²⁴ In their article published in this journal, however, Jordá and coworkers²⁵ discuss whether this is the best option in all cases. As the authors point out, the results of the various studies published to date lead us to believe that the natural history of the disease, and thus its prognosis as well, remains unknown. Their experience with the use of a less invasive treatment, in this case balloon dilatation guided by fiberoptic bronchoscopy, has shown that it is possible to obtain considerable disease-free periods in a wide range of patients. For this reason, they argue that this treatment should be considered a first option in the initial management of idiopathic laryngotracheal stenosis.

Intrathoracic Gossypiboma Interpreted as Bronchogenic Carcinoma. Another False Positive With PET

Intrathoracic gossypiboma is an inflammatory reaction to textile foreign bodies left in the thoracic cavity. García et al²⁶ showed that it can display positive uptake on a PET scan.

The introduction of PET in cancer studies has led to improvement in the staging process. However, as it has become more a part of routine practice, there has been an increasing awareness that results should always be interpreted within their context. Recent studies have shown that various parenchymal lesions, such as benign tumors or infections, can appear as false positives in PET, while there may also be false negatives when tumors with low uptake, such as bronchioalveolar carcinoma, are involved. We are thus reminded of the importance of obtaining histologic material during the process of diagnosing pulmonary parenchymal lesions, regardless of the radiographic image.²⁷

Pulmonary Sclerosing Hemangioma in a Patient With Cowden Syndrome

Pulmonary sclerosing hemangioma, first described in 1956,²⁸ is an uncommon benign tumor. It was at first believed to be of vascular origin, but the histogenesis of the tumor is currently thought to be linked to type 2

pneumocytes. Middle-aged female smokers of Asian origin are particularly affected, and it is usually discovered by chance. Chest computed tomography (CT) scans show a well-defined mass with uptake of the contrast medium. Treatment is surgical.

Cowden syndrome is characterized by the presence of benign hamartomas, mainly colonic polyps. It is caused by mutations at 10q23 in the *PTEN* gene.

The case reported by Guerra-Gutiérrez et al²⁹ has the peculiarity of being the first one described in which pulmonary sclerosing hemangioma was associated with Cowden syndrome (colonic polyposis). The authors claim that this association had not been previously studied due to the low prevalence of both diseases.

Lung Calcifications Associated With Chronic Kidney Failure

The prevalence of lung calcification is low. Although an idiopathic form (pulmonary alveolar microlithiasis) does exist, it is generally secondary to other diseases. Treatment consists of modifying the course of the primary disease. Symptoms are nonspecific and insidious. Lung function tests show a restrictive defect with a reduction in carbon monoxide diffusing capacity. The chest x-ray may show a reticular nodular pattern, although, as in the case reported by Puy et al,³⁰ the image may sometimes be normal. This point is very important because, as the authors point out, in a patient with respiratory symptoms and a predisposing underlying disease, pulmonary calcifications should be ruled out by chest CT even if the chest x-ray is normal.

REFERENCES

1. Asturias MA. El señor presidente. Madrid: Alianza; 1946.
2. Peñalver JC, Jordá C, Escrivá J, Cerón J, Calvo V, Padilla J. Trasplante pulmonar. Carcinoma broncogénico en pulmón nativo. Arch Bronconeumol. 2007;43:126-8.
3. Bazex A, Salvador R, Dupré A, Christol B. Syndrome paranéoplasique à type d'hyperkératose des extrémités. Bull Soc Fr Dermatol Syphiligr. 1965;72:182.
4. Bologna JL, Brewer YP, Cooper DL. Bazex syndrome (acrokeratosis paraneoplastica). An analytic review. Medicine (Baltimore). 1991;70:269-80.
5. Río MT, Casado ME, Peirón MJ, Peñas JM. Adenocarcinoma de pulmón y síndrome de Bazex (acroqueratosis paraneoplásica). Arch Bronconeumol. 2007;43:46-8.
6. Sales JG, Galbis JM, Viñals B, Luna D, Cordero P, Cuevas JM. Neumonectomía por metástasis pulmonar con utilización de circulación extracorpórea. Arch Bronconeumol. 2007;43:180-2.
7. Ginsberg RJ. New technique for one-lung anesthesia using an endobronchial blocker. J Thorac Cardiovasc Surg. 1981;82:542-6.
8. Arndt GA, DeLessio ST, Kranner PW, Orzepowski W, Ceranski B, Valtysson B. One-lung ventilation when intubation is difficult – presentation of a new endobronchial blocker. Acta Anaesthesiol Scand. 1999;43:356-8.
9. Espí C, García-Guasch R, Ibáñez C, Fernández E, Astudillo J. Bloqueo lobular selectivo mediante el bloqueador bronquial de Arndt en 2 pacientes con compromiso respiratorio sometidos a resección pulmonar. Arch Bronconeumol. 2007;43:346-8.
10. Collard HR, Moore BB, Flaherty HR, Brown KK, Kaner RJ, King TE, et al. Acute exacerbations of idiopathic pulmonary fibrosis. Am J Respir Crit Care Med. 2007;176:636-43.

11. Altube L, Salinas C, Aburto M, Moraza FJ, Ballaz A, Capelastegui A. Fase acelerada de la fibrosis pulmonar idiopática. *Arch Bronconeumol.* 2007;43:516-8.
12. Pfitzenmeyer P, Foucher P, Dennewald G, Chevalon B, Debieuvre D, Bensa P, et al. Pleuropulmonary changes induced by ergoline drugs. *Eur Respir J.* 1996;9:1013-9.
13. Bhatt MH, Keenan SP, Fleetham JA, Calne DB. Pleuropulmonary disease associated with dopamine agonist therapy. *Ann Neurol.* 1991;30:613-6.
14. Villavicencio C, Ramírez-Sarmiento A, Gayete A, Grau S, Orozco-Levi M. Toxicidad pleuropulmonar precoz asociada al tratamiento con cabergolina, un fármaco antiparkinsoniano. *Arch Bronconeumol.* 2007;43:519-22.
15. Hoyos N, Casanova A, Sánchez S, Valenzuela C, García A, Girón RM. Polimiositis y afectación pulmonar intersticial con buena respuesta a glucocorticoides y metotrexato. *Arch Bronconeumol.* 2007;43:636-9.
16. Muñoz A, Aranda I, Pascual J, Ferrando C. Neumonía intersticial bronquiocéntrica idiopática: una nueva neumonía intersticial idiopática. *Arch Bronconeumol.* 2007;43:464-6.
17. Baldi S, Rostagno RD, Zander T, Rabellino M, Maynar M. Oclusión de una fístula arteriovenosa pulmonar con el tapón vascular Amplatzer. *Arch Bronconeumol.* 2007;43:239-41.
18. Lorenzo MJ, Cases E, Bravo J, Lloris A, Sanchis JL. Embolia pulmonar por mercurio elemental. *Arch Bronconeumol.* 2007;43:585-7.
19. León V, Sánchez A, Ruiz A, Carmona C, Botebol G, Capote F. Síndrome de apnea obstructiva del sueño infantil de presentación grave. *Arch Bronconeumol.* 2007;43:289-91.
20. Amin R, Anthony L, Somers V, Fenchel M, McConnell K, Jefferies J, et al. Growth velocity predicts recurrence of sleep-disordered breathing 1 year after adenotonsillectomy. *Am J Respir Crit Care Med.* 2008;177:654-9.
21. Llombart M, Chiner E, Gómez-Merino E, Andreu AL, Pastor E, Camarasa A. Síndrome de apnea central de origen multifactorial tratado mediante soporte ventilatorio domiciliario. *Arch Bronconeumol.* 2007;43:467-71.
22. Bandrés R, Muñoz MJ. Respuesta prolongada a voriconazol en un caso de broncoaspergilosis alérgica. *Arch Bronconeumol.* 2007; 43: 49-51.
23. Wark PAB, Gibson PG, Wilson AJ. Azoles for allergic bronchopulmonary aspergillosis. *Cochrane Database Syst Rev.* 2000;(3): CD001108.
24. Grillo HC, Mark EJ, Mathisen DJ, Wain JC. Idiopathic laryngotracheal stenosis and its management. *Ann Thoracic Surg.* 1993; 56:80-7.
25. Jordá C, Peñalver JC, Escrivá J, Cerón J, Padilla J. Dilatación traqueal neumática en el tratamiento de la estenosis traqueal idiopática. *Arch Bronconeumol.* 2007;43:692-4.
26. García C, Cabrera P, Freixinet J, Rodríguez P, Hussein M, Romero T. Textiloma intratorácico interpretado como carcinoma broncogénico. Otro falso positivo de la tomografía por emisión de positrones. *Arch Bronconeumol.* 2007;43:292-4.
27. Shim SS, Lee KS, Kim BT, Choi JY, Chung MJ, Lee EJ. Focal parenchymal lung lesions showing a potential of false-positive and false-negative interpretations on integrated PET/CT. *AJR Am J Roentgenol.* 2006;186:639-48.
28. Liebow AA, Hubbell DS. Sclerosing hemangioma (histiocytoma, xanthoma) of the lung. *Cancer.* 1956;9:53-75.
29. Guerra-Gutiérrez F, Torres I, Gallardo-Madueño G, Mariño-Enríquez A, Nistal M. Hemangioma esclerosante pulmonar en un paciente con síndrome de Cowden. *Arch Bronconeumol.* 2007;43: 418-20.
30. Puy MC, Rodríguez-Arias JM, Casan P. Calcificaciones pulmonares asociadas a insuficiencia renal crónica. *Arch Bronconeumol.* 2007; 3:349-51.