ramr
Revista Americana de Medicina Respiratoria

RAMR 2015;3:190-202
ISSN 1852 - 236X

Management of Interstitial Lung Diseases in Argentina: a Survey to Pulmonologists

Correspondence:
Brenda Varela
Address: Pueyrredon Av 2127 - CABA.
Phone: 4-8277000 (2722)
E-mail: brendavarela144@hotmail.com

Received: 23.04.2015
Accepted: 17.07.2015

Authors: Brenda Varela, Gabriela Tabaj, Juan Ignacio Enghelmayer, Silvia Quadrelli, Tulio Papucci, Andrea Pino, Marcelo Fernández Casares

AAMR Department of Interstitial Diseases

Abstract

Background: Diffuse interstitial (or parenchymal) lung diseases (ILDs) are a very large group of diseases that although they share certain clinical features, have a very different prognosis. Idiopathic pulmonary fibrosis (IPF) is the most prevalent in many countries and its diagnosis can be difficult. After the results shown in the consensus on diagnosis and management of IPF, and the arrival of new drugs such as pirfenidone, the approach to this disease have changed. A survey was performed to argentine pulmonologists in order to evaluate the acceptability and implementation of these guidelines in Argentina.

Material and Methods: A survey of 24 questions was designed. Among the data collected in the questionnaire were demographics of respondents, workplace (public or private healthcare facilities, referral center, large or small healthcare centers or institutions), frequency at which IPF patients were examined, availability of diagnostic tests, and diagnostic strategies used with ILD patients. Finally, the survey focused on therapeutic recommendations for patients diagnosed with IPF. The survey was completed during the Argentine Congress of Respiratory Medicine held in 2013 in the city of Mendoza. The same methodology and questionnaire were previously used in the Argentine Congress of Respiratory Medicine in 2011.

Results: In 2013, a total of 252 physicians completed the survey, which represented approximately 20% of Congress attendees. The complementary test of higher availability was the the six minutes walk test (6MWT). The most widely used supplementary method was thoracic computed tomography (CT) as 86.9% of the responders used it if they suspected ILD, and only 44.4% of the responders used diffusing capacity of the lungs for carbon monoxide (DLCO) with all their patients. Almost 50% of the responders consulted referral centers for less than 30% of patients with suspected ILD. Less than 20% of the responders considered that they reached a final diagnosis of ILD in over 60% of their patients. Final distribution of diagnosis was heterogeneous. Interestingly, almost 50% of the responders considered IPF as the final diagnosis in less than 30% of their patients. Approximately 50% of the responders answered that less than 20% of their IPF patients received specific treatment for the disease.

Conclusions: Our survey suggests that there are difficulties in the diagnostic approach of ILDs, there is a low percentage of patients that are evaluated in referral centers and there is a low proportion of IPF patients receiving specific treatment.

Key words: Diffuse interstitial (or parenchymal) lung diseases, Idiopathic pulmonary fibrosis, Connective Tissue Disease, Pirfenidone

Introduction

Diffuse interstitial (or parenchymal) lung diseases (ILDs) represent a very large group of more than 200 entities, many of which are rare or "orphan" diseases. The ATS/ERS (American Thoracic Society/ European Respiratory Society)[1] consensus classifies idiopathic interstitial pneumonias (IIP) into seven clinical-pathological conditions. This classification –largely based on histopathology– is also the result of a close relationship among clinicians, radiologists, pathologists and a multidisciplinary approach. High resolution thin-section CT scanning (HRCT) is a key tool for IIP diagnosis since in most cases, in the adequate clinical context, tomographic patterns are enough to reach final diagnosis.

Idiopathic pulmonary fibrosis (IPF) is a progressive, fibrosing disease. It does not have a cure and mean survival ranges from 2 to 5 years from diagnosis[2]. Many clinical research studies looked for an effective treatment without success until 2011, when the first treatment for IPF was approved in Europe: pirfenidone[3].

ILD diagnosis can be very difficult, especially when it is an IPF or a nonspecific interstitial pneumonia (NSIP). Several societies (ATS, ERS, JRS and ALAT) have extensively reviewed available literature and guidelines on recommendations for IPF diagnosis and management. New information has become available after 2011 with the approval of pirfenidone and the negative outcomes of the "triple drug therapy"- consisting of corticosteroids-azathioprine and N-acetylcysteine[4].

Acceptability and difficulties regarding the implementation of these guidelines have not been assessed in Argentina.

To assess the parameters used in IPF diagnosis and treatment, a survey was conducted among pulmonologists attending the Argentine Congress on Respiratory Medicine held in October 2013. The results of this survey were compared to those of a similar survey carried out two years earlier by the Interstitial Disease Department of the Argentine Association of Respiratory Medicine.

Materials and methods

A 24-item questionnaire was designed to characterize pulmonologists current clinical practice patterns regarding availability of resources, assessment of ILDs, and treatment of IPF patients. During the Argentine Congress of Respiratory Medicine held in October 2013 in the city of Mendoza, the participants were invited to complete the questionnaires that were placed on a desk. The following information was collected: demographics data of respondents, workplace (public or private healthcare facilities, referral center, large or small healthcare centers or institutions), frequency at which IPF patients were examined, availability of diagnostic tests, and diagnostic strategies used with ILD patients. Finally, the survey focused on therapeutic recommendations for patients diagnosed with IPF. The same methodology and questionnaire had been used previously at the 2011 Argentine Congress of Respiratory Medicine.

Data were presented as proportion of responders. The chi=square test was used for the comparison between physicians who devote more than 50% of their time working at high-complexity healthcare facilities and those working at small healthcare centers. Comparisons between 2013 and 2011 responders were also done using a chi-square test.

ANNEX I and II surveys in spanish version.

Results

In 2013, a total of 252 physicians completed the survey, which represented approximately 20% of Congress participants. In 2011, 155 physicians answered the questionnaire.

Over 60% of 2013 responders were women under 50 years old (Table 1) who lived in large cities (Figure 1). 90% were pulmonologists (12% were specialists in a related field, such as internal medicine or intensive health care). 29% of the responders stated that they worked (more than 50% of their time) at public centers and 25% in a private referral centre. The remaining stated that they worked at small or private institutions. Over 80% of responders were involved in less than 20 annual cases of ILD (Figure 2). The most available

TABLE 1. Age of participants

Age	n	Percentage
<40	87	34.5
41-50	78	31.0
51-60	73	29.0
61-70	14	5.6
Total	252	100.0

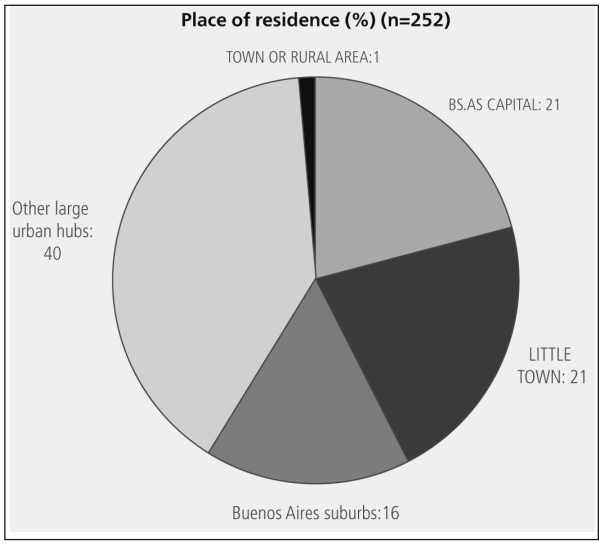

Figure 1. Participant's place of residence

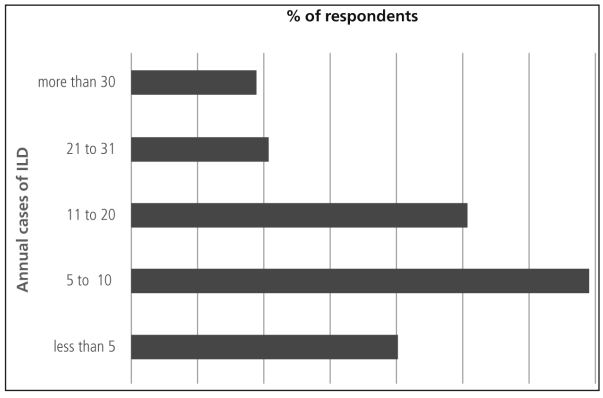

Figure 2. Number of ILDs treated per year

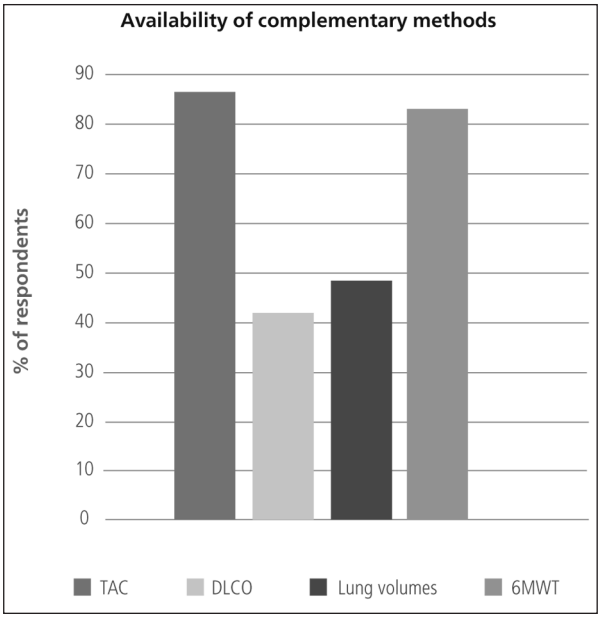

Figure 3. Availability of supplementary methods.

complementary method was the six minutes walk test (6MWT) (Figure 3). The most widely used supplementary method was thoracic computed tomography (86.9% of the responders used it if they suspected ILD), and only 44.4 % of the responders used lung diffusing capacity for carbon monoxide (DLCO) in all their patients (Table 2). Table 3 shows the frequency of other diagnostic methods which were used.

Reasons for not using some diagnostic methods varied, but a high percentage of respondents stated that the limiting factors to order some tests were high cost and unavailability (Table 4).

If surgical biopsies were performed, approximately one third of the responders routinely sent their samples to an expert in pulmonary pathology (Figure 4). Almost 60% of the respondents consulted referral centers for less than 30% of their patients with suspected ILD (Figure 5). Among the 190 respondents who explained their reasons for this, 58.4% stated they considered it unnecessary, and 41.5% said they had limited access to specialized centers.

Less than 20% of the responders considered that they reached a final diagnosis of ILD in over 60% of their patients (Figure 6). Final classification of diagnosis was heterogeneous. It is worth noting that, almost 50% of the respondents considered IPF as the final diagnosis in less than 30% of their patients (Table 5). Among the alternative diagnoses it had a large proportion of interstitial disease associated with collagen diseases. Approximately 50% of the responders answered that less than 20% of their IPF patients received specific treatment for the disease (Figure 7).

Only 30% of the responders prescribed pirfenidone as the choice treatment for IPF, and over 60% continued prescribing to prescribe treatments with different combinations of corticosteroids and immunosuppressants (Table 6). Over 90% of the responders expressed that less than 3 patients per year were referred for transplant evaluation. Reasons for not referring patients were as follows: transplant was not considered a treatment option (3.9%), there were few severe patients in their population (72.5%) and the belief that getting a lung transplant in our country is extremely unlikely (23.5%).

The frequency in the indication of antibody assays was the only difference found in terms

TABLE 2. Use of supplementary methods in the study of DPLD

% Of patients enrolled	CT (n = 244) % of responses	DLCO (n = 243) % of responses	PM6M (n = 243) % of responses	Lung volume (n= 243) % of responses
0	2.0	23.0	4.9	25.1
5	0.4	0.8	0.8	3.3
10	0.4	4.1	1.2	1.2
20	0.4	1.6	2.1	3.7
40	0.8	3.3	2.1	0.8
50	0.4	7.8	4.5	7.4
60	0.8	0.8	3.3	1.6
70	0.8	3.3	4.1	2.9
80	3.7	9.0	7.0	6.6
90	3.28	1.6	2.5	2.1
100	86.9	44.4	67.5	45.3
Total	100.0	100.0	100.0	100.0

TABLE 3. Use of other supplementary methods in the study of DPLD (n = 243)

Percentage of use of method	Antibodies (% of respondents)	FBC (% of respondents)	Doppler echocardiography respondents)	Exercise test (% of respondents)	Surgical biopsy (% of respondents)
< 30	31.7	34.2	13.6	55.1	59.3
30-50	10.7	32.9	14.0	15.2	31.7
51-70	2.1	8.6	9.1	6.6	2.9
> 70	55.6	24.3	63.4	23.0	6.2

TABLE 4. Reasons for not using the methods (if so)

Reasons for not using the method	TC (n = 36)	DLCO (n = 112)	Lung volume (n = 107)	6MWT (n = 44)	Exercise test (n = 122)	Echocardiography (n = 122)	FBC (n = 114)	Antibodies (n = 86)	Biopsy (n = 145)
Difficult access	33.3%	69.6%	66.4%	27.3%	59.8%	20.0%	22.8%	55.8%	34.5%
Very expensive	16.7%	11.6%	11.2%	2.3%	4.9%	10.9%	9.6%	8.1%	9.0%
I don't think it's necessary	50.0%	18.8%	22.4%	70.5%	35.2%	69.1%	67.5%	36.0%	56.6%

of diagnostic methods when comparing pulmonologists who worked more than 50% of their time at medium and high-complexity facilities with those working at low-complexity facilities or small healthcare centers (Table 7). Pulmonologists at large healthcare facilities reported a higher prevalence of ILD associated to connective tissue disorders and a lower rate of prescription of corticosteroids and immunosuppressants for the treatment of IPF (Table 8). There were no differences between pulmonologists who took care of more than 20 ILD cases per year and those who took care of less cases (Figures 8 and 9).

The 2011 and 2013 results were not entirely comparable, since the prevalence of the responders who worked more than 50% of their time at referral centers was higher in 2011 (64.7% vs. 50.2% p: 0.004). Therefore, we decided to compare according to complexity.

We confirmed a reduced availability of DLCO and, therefore, in DLCO measurement between 2011 and 2013 in the surveyed centers working

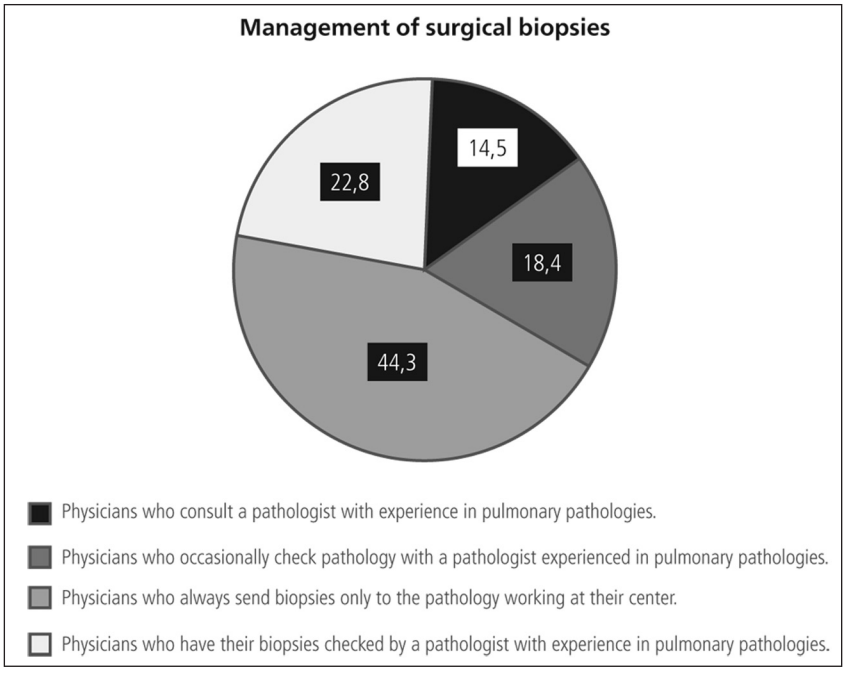

Figure 4. Management of surgical biopsies

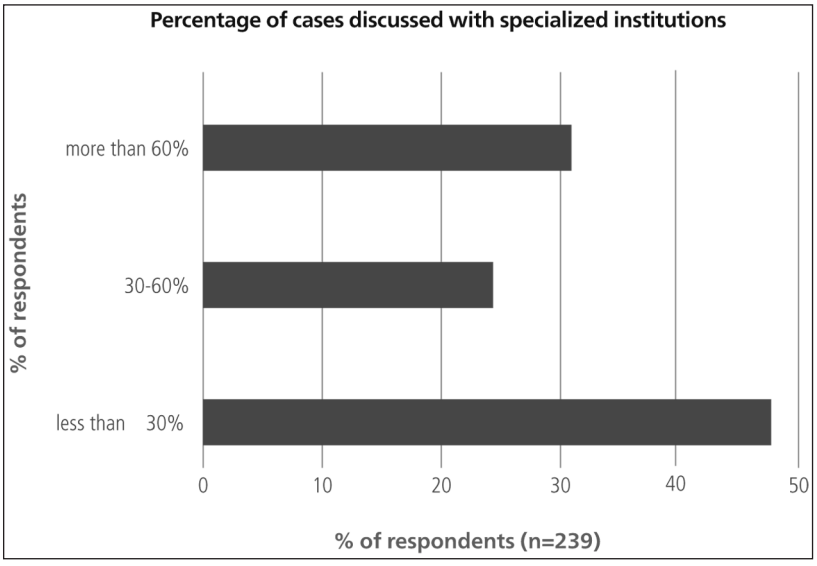

Figure 5. Proportion of patients with DPLD who consulted to specialized centers

in medium and high complexity (Tables 9 and 10). In both types of institutions, the classification of the final diagnoses was not different (Table 11).

The proportion of patients receiving corticosteroids and/or immunosuppressants for the treatment of IPF decreased significantly. However, this decrease was neither accompanied with nor replaced by new treatment options (Table 12).

Discussion

During the last few years, the diagnosis of interstitial diseases –particularly IPF– has undergone many changes. This may be partly due to a deeper understanding of its physiopathology, the advent of new drugs, and, mainly, the publication of the last 2011 consensus[1] on IPF diagnosis and treatment. In addition to the strengths and weaknesses of different therapeutic options, there was a turning

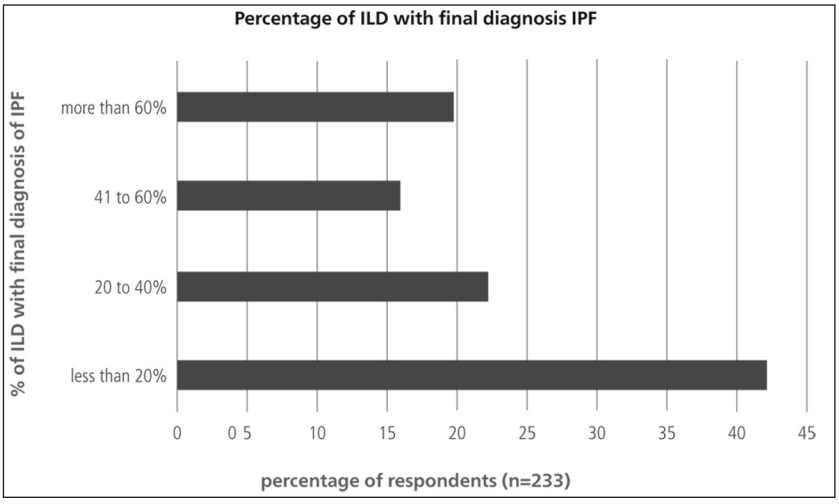

Figure 6. Percentage of cases that reach final diagnosis

TABLE 5. Distribution of DPLD diagnosis

Proportion of consultations	Proportion of DPLD associated to CTD (n = 236)	Proportion of DPLD that are IPF (n = 233)
Less than 30%	33.5%	49.8%
30-50%	40.3%	27.9%
51-70%	18.2%	4.7%
>70%	8.1%	17.6%

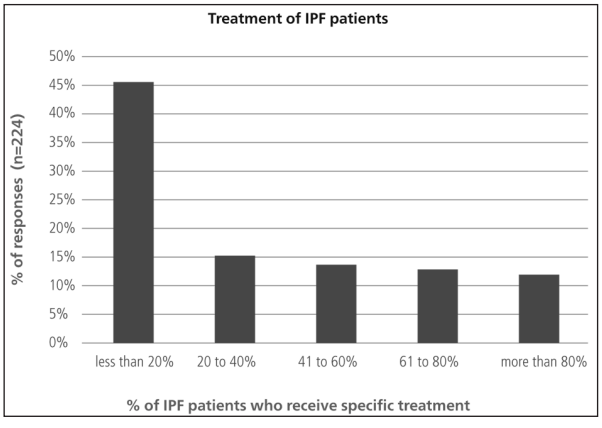

Figure 7. Proportion of IPF patients who receive specific treatment

TABLE 6. Treatments prescribed for IPF

Treatment for IPF	% of responses (n = 188)
AZA + acetylcysteine	0.5
AZA	0.5
Corticosteroids + AZA	9.3
Corticosteroids + acetylcysteine	6.0
Corticosteroids + AZA + acetylcysteine	18.1
Corticosteroids	22.0
Corticosteroids + AZA + Methotrexate	0.5
Corticosteroids + AZA + Colchicine	0.5
Corticosteroids + n-acetylcysteine + protector gástrico	0.5
Corticosteroids + cyclophosphamide	1.6
N – acetylcysteine	9.3
Pirfenidone	29.7
Pirfenidone + ambrisentan + nac	0.5
Tobramicine	0.5
Total	100.0

point in the management of these patients marked by the contribution of HRCT to diagnosis –often with high certainty– and the need for an interdisciplinary approach to these patients.

Although several countries have assessed the impact of these guidelines in the management of IPF patients[3, 5, 6, 7, 8], their acceptability and implementation of the mentioned guidelines have not been assessed in our country.

In order to evaluate the impact of the 2011 Consensus[1] in our country, a questionnaire was designed to be administered during the 2011 and 2013 sessions of the annual Argentine Congress of Respiratory Medicine, an event that is attended by many physicians.

Regarding the study population (253 surveyed physicians in 2013 and 155 in 2011), we must consider that slightly over half of responders worked at public or private referral centers, while the rest worked exclusively in private practice or small healthcare facilities. This is an important

TABLE 7. Use of supplementary methods according to complexity-level of the main workplace facility

Performed in more than 60% of their patients	Over 50% work at medium-high complexity healthcare facilities (public or private)	Over 50% work at low-complexity healthcare facilities (public or private)	p
CT	95.1%	95.8%	1.000
DLCO	62.5%	55.7%	0.298
6MWT	86.7%	82.0%	0.378
Pulmonary volumes	63.3%	53.3%	0.120
Measurement of antibodies	64.2%	50.8%	0.038

TABLE 8. Distribution of diagnoses based on complexity level of the main workplace facility

	Over 50% work at medium-high complexity healthcare facilities (public or private)	Over 50% work at low-complexity healthcare facilities (public or private)	p
Over 50% are CTD	53.8%	29.7%	< 0.001
Less than 30% are IPF	53.0%	46.2%	0.358
Treatment prescribed for IPF includes corticosteroids and IS	51.6%	67.0%	0.049

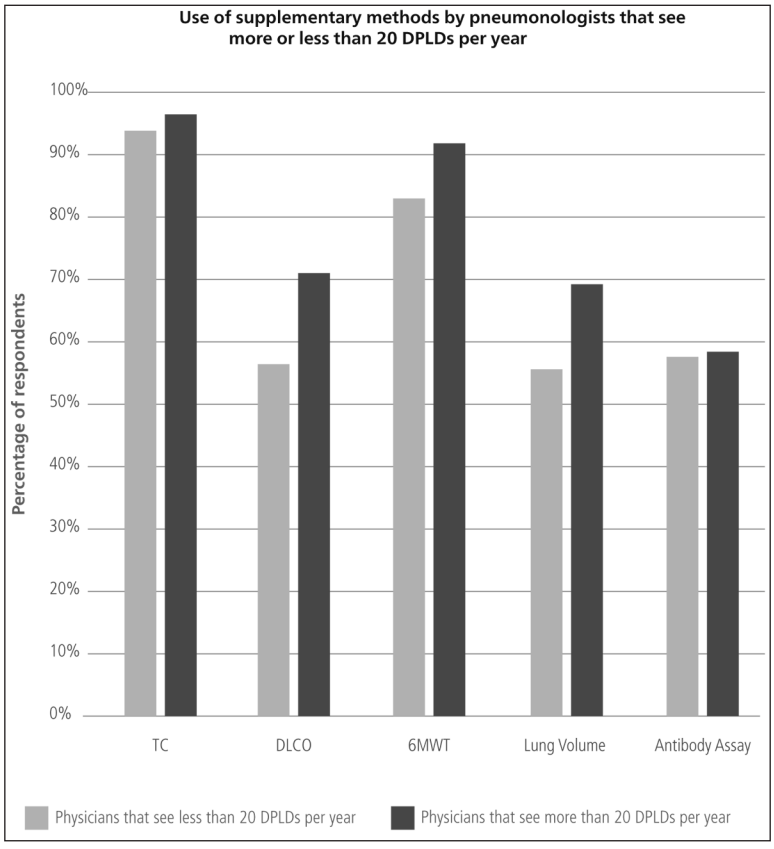

Figure 8. Pneumonologists that see more or less than 20 cases of DPLD per year

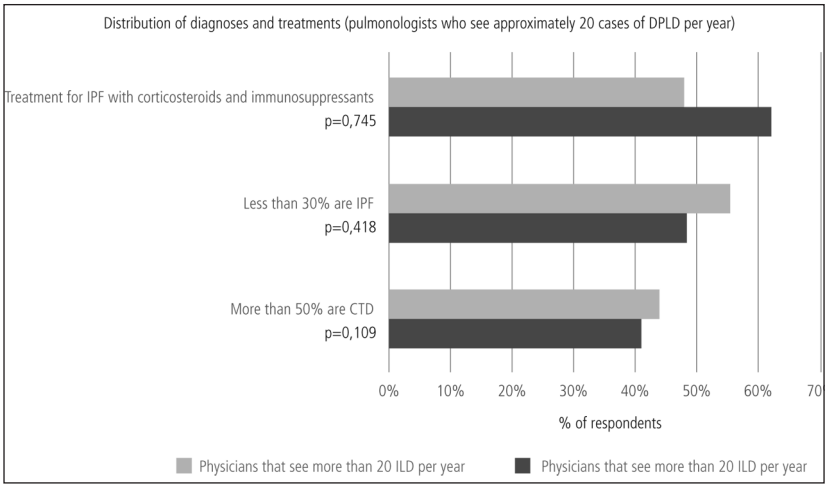

Figure 9. Distribution of diagnoses and treatments (pulmonologists who see approximately 20 cases of DPLD per year)

TABLE 9. Comparison between 2011 and 2013 surveys (physicians working more than 50% of the time at medium-high complexity healthcare facilities)

Method (% of availability)	2011	2013	p
CT	69.3%	86.5%	0.02
DLCO	67.3%	44.4%	0.001
Lung volumes	65.3%	48.4%	0.329
6MWT	93.0%	84.1%	0.062

TABLE 10. Use of tests in 2011 and 2013 surveys (physicians that work more than 50% of the time at medium/high-complexity healthcare facilities)

Methods (% of respondents who prescribe tests in more than 60% of the cases)	2011	2013	p
CT	96.0%	95.8%	1.000
DLCO	77.0%	62.5%	0.028
Pulmonary volumes	75.5%	63.3%	0.06
6MWT	86.0%	86.7%	1.000
Antibodies	65.3%	64.2%	0.888

fact, since (as mentioned before) diagnosis of most interstitial diseases requires a multidisciplinary approach, which calls for access to and the interaction of different specialists (pulmonologists, imaging experts, and pathologists). Such approach allows for earlier diagnosis (as in IPF) and adequate treatment decisions[9]. The workplace of surveyed physicians contrasts with international surveys. According to a recently published French survey[5]–which polled over 1244 pulmonologists, out of whom, 41% dealt with interstitial diseases –most pulmonologists worked at general hospitals (68%), 23% in private practice, and 9% in combined private/public practice.

In a survey conducted in Latin America-ALAT 2013 (Latin American Thoracic Society)[10], a total of 185 healthcare professionals were polled (most of them pulmonologists), 76% of whom were over 40 years of age. In our survey, over 60% of the respondents were women under 50. This means that in both surveys, physicians had at least 10 years of experience in their specialty.

In the 2013 survey, the analysis of the number of IPF patients assisted per year showed that 80% of respondent physicians saw less than 20 patients with ILD per year (55% saw 10 or less per year). This is a significant difference with international surveys; the French[5] and AIR[3] (Advancing IPF Research) surveys showed mean values of 56 and 39 IPF patients per physician per year, respectively. In the Latin American survey[10], 50% of the respondents stated that 1-5% of their patients had ILD.

Accordingly, Argentina´s geographic dispersion and low stratification of complexity levels call for continuous medical education strategies for ILD that require support structures (on-site or remote) for a large number of physicians working at centers with low availability of diagnostic methods and limited access to interdisciplinary discussions.

As regards availability of supplementary studies, 86.9% of respondents had access to CT, 67%

TABLE 11. Distribution of diagnoses in 2011 and 2013

Low-complexity healthcare facilities Diagnoses	2011	2013	p
% of respondents who reach a certain diagnosis in over 60% of their patients	34.6	23.1	0.133
% of respondents for whom over 50% of their cases of DPLD are associated to CTD	35.3	29.7	0.476
% of respondents for whom less than 30% of their cases of DPLD are IFP	33.3	46.2	0.343
High-complexity healthcare facilities			
Diagnoses	2011	2013	p
% of respondents who reach a certain diagnosis in over 60% of their patients	42.3	31.9	0.153
% of respondents for whom over 50% of their cases of DPLD are associated to CTD	41.9	53.8	0.997
% of respondents for whom less than 30% of their cases of DPLD are IFP	51.7	53.0	1.000

TABLE 12. IPF treatment in 2011 and 2013

Low-complexity healthcare facilities	2011	2013	p
% of respondents who prescribe IPF-specific treatment for more than 60% of their patients	58.3	26.6	< 0,001
IPF treatment with corticosteroids and/or immunosuppressants (% of patients receiving said treatment)	100.0	67.0	< 0,001
High-complexity healthcare facilitie	2011	2013	P
% of respondents who prescribe IPF-specific treatment for more than 60% of their patients	57.8	24.8	< 0,001
IPF treatment with corticosteroids and/or immunosuppressants (% of patients receiving said treatment)	94.2	51.6	< 0,001

to 6MWTs, and only 44% to DLCO. The Latin American survey[10] showed very similar results: 85% for CT and 40% for DLCO. HRCT is very important in the diagnosis of IPF, since a tomographic pattern of usual interstitial pneumonia (UIP) would avoid the need for surgical biopsy confirmation. Our study did not enquire about access to experts in thoracic images nor how the diagnosis was performed in patients without CT.

In Argentina, there are very few official graduate programs on thoracic radiology. However, this situation is not conclusive since radiologists may have attended other continuous medical education programs or have acquired extensive experience because of the number of cases they have seen. Even though it is very hard to assess this situation quantitatively, it is unlikely that the physicians working at small centers (and/or small districts) have direct access to a radiologist with the opportunity to see a large number of cases, as would be necessary to upgrade their experience beyond their initial training. Another limiting factor of this type of survey is that it cannot assess imaging quality (especially in the case of high-resolution techniques) and, accordingly, diagnostic accuracy.

As for supplementary tests, it is worth mentioning that a relatively low proportion of physicians perform DLCO routinely in all their patients (44%), which is probably due, as referred by responders, to lack of availability (69%) and/or high cost (11.6%). DLCO is essential to assess disease severity and surgical risk –in case of biopsies. Remarkably, with respect to their reasons for not conducting supplementary tests, they answered that they thought they were not necessary (18.8%). In spite of the fact that, in theory, access to 6MWT is easy (it is a simple, low-cost test), only 67.5% of the respondents used it routinely, and 70% of non-users stated they considered it unnecessary. 6MWT is extremely useful both to detect baseline defects –if DLCO is not available– and to predict disease evolution in IPF patients. Other local studies have shown that the test is not sensitive enough to detect a drop in DLCO[11] but it is readily available and highly-specific. On the other hand, the drop in SaO_2 correlates to the drop in forced vital capacity (FVC) but it cannot be predicted by DLCO values or thoracic CT anomalies. Thus, that measurement is important to decide whether or not to administer supplemental oxygen[11]. Additionally, 6MWTs have proved useful to define IPF prognosis, whether through distance walked or the magnitude of the drop in oxygen saturation[12]. A study[13] showed that the drop in oxygen saturation (more than the distance walked) predicted a higher mortality risk, even if adjusted to age, sex, and baseline DLCO. Another study[14] showed that walked distance was not effective to predict a higher mortality risk, if the drop in oxygen saturation was taken into consideration. These differences probably relate to different walking protocols and the use or absence of supplemental oxygen but, in any case, the diagnostic and prognostic value of this simple affordable test is undeniable. Strikingly, we found no significant differences between physicians working at medium-high complexity healthcare facilities (and/or who saw more patients per year) and the remaining healthcare professionals regarding the use of routine tests—with the only exception of antibody assays, which were more frequently prescribed by the first group of physicians.

As for interdisciplinary diagnosis, only one third of responders sent (always or frequently) biopsy samples to pathologists with experience in interstitial diseases (37%). This differs from other surveys, since in AIR this is a systematic practice in over 90% of the cases (66% in the French survey). It is worth highlighting that, in those surveys, only 7% and 3%, respectively, never consult another colleague (of the same field or radiologists or pathologists) for help to reach IPF diagnosis. In the Latin American survey[10], more than half of the responders (59%) did not have access to a pathologist with experience in ILD diagnosis in their institution. Such data, both for Argentina and Latin America, lead us to consider it necessary to promote or facilitate communication with referral centers for ILD management. Although different characteristics of the sample population account for these differences, difficulties to refer laboratory samples undoubtedly have a large influence in our settings. To promote and guarantee access to experienced pathologists should be a priority for parties interested in these patients, so as to facilitate the work of specialists without access to pathologists trained in pulmonary pathologies at their centers.

In our survey, less than 50% of responders consult referral centers. Maybe this low rate of interaction partially explains why only 20% reach final diagnosis in their patients. In Argentina, there are free services and methods for face-to-face and remote consultation with specialized centers. However, consultation rates to specialized centers are very low, apparently due to lack of trust or knowledge. The Department of Interstitial Diseases of the AAMR (Argentine Association for Respiratory Medicine) should improve accessibility to and promote the importance of these consultations more broadly and emphatically—especially in difficult-to-diagnose cases.

Another striking aspect is the low proportion of physicians stating that IPF is their most frequent diagnosis. Instead they claimed a higher frequency of connective tissue diseases (CTDs). The assessment of different international series (France, Japan, USA, etc.) shows that IPF is the most prevalent diagnosis, representing over 50% of ILD cases. This was also the result of the Latin American survey, where the most frequent ILD was IPF (59%). This situation may result from the inclusion, within the ILD category, of patients with non-specific disorders or conditions not traditionally included within ILD, such as infections, occupational conditions, or a high level of wrong diagnoses. However, except for specialized hospitals, the low prevalence of ILDs associated to CTDs makes it unlikely for CTDs to be the most frequent

cause. A positive aspect of this information is the high awareness among rheumatologists who refer their patients frequently and early for evaluation of lung involvement, though, this may also reflect the under-diagnosis of IPF.

It is worth mentioning the low percentage of patients who receive specific treatment. Less than one third of physicians prescribed pirfenidone as the choice treatment. Pirfenidone is currently regarded as the only drug available in the Argentine market with positive, proven results. The ASCEND (Assessment of Pirfenidone to Confirm Efficacy and Safety in Idiopathic Pulmonary Fibrosis) [15] study is a phase-III, double-blind, placebo controlled randomized trial assessing the use of pirfenidone in the IPF treatment. In a study, conducted for the first time in Japan, treatment with pirfenidone reduced the decline in FVC at week 52 and improved survival. Later, multicenter studies were conducted in the US (CAPACITY 004 and 006)[16], where the primary outcome was FVC (difference between baseline and end values at week 72). The difference was reached in 004 but not in 006. Treatment with pirfenidone was associated to a reduction in FVC decline (8 vs. 12%) as well as to fewer deaths in patients treated with 2403 mg/d. This is why several international guidelines have included pirfenidone in their treatment recommendations[17,18,19]. A more concerning issue is the fact that 60% of the responders, continued to prescribe different combinations of corticosteroids and immunosuppressants, which not only are ineffective but may be harmful. The study known as PANTHER-IPF[20] assessed the response of IPF to three different therapeutic regimens: prednisone, azathioprine and n-acetylcysteine versus n-acetylcysteine alone versus placebo. An interim analysis conducted before week 60 showed that, as compared to placebo, the combination of the three drugs (prednisone, azathioprine and n-acetylcysteine) was associated to higher mortality rates (1% vs. 11%), more hospital admissions (8% vs. 29%), and more severe adverse events (9% vs. 31%).

In the Latin American survey, most colleagues still used the triple drug regimen as a therapeutic option. In the AIR survey (conducted in 2013), pirfenidone was prescribed to 81% of IPF patients, being the most frequent prescription after supplemental oxygen (96%). N-acetylcysteine alone and corticosteroids were prescribed to 76% and 34%, respectively. It seems that high-cost and availability difficulties have a significant influence in our settings, limiting treatment administration. However, it is also possible that the fact that IPF is perceived as an inevitably lethal disease in the short-term influences treatment decisions made by treating physicians, explaining why they do not take a more active approach with these patients. It is necessary to effectively communicate the correct role of pirfenidone (with its indications, contraindications, and effectiveness limitations) so that both physicians and patients can make informed decisions about the use of pirfenidone and future available treatments to slow disease progression.

According to the French survey (2011-2012), treatment with corticosteroids was prescribed in 49% of the cases. This high proportion—observed both in the French survey and in our own survey—leads us to emphasize the need for continuous education and refreshing programs on IPF management. Another factor worth mentioning (which we should not forget) is that pirfenidone has been available in our country only since 2013-a relatively short time. Factors such as resistance to change, lack of knowledge about the consensus and new drugs, as well as delays of public and private health insurance companies in covering costs, could account for this.

In the comparison between 2011 and 2013 surveys, the reduction in the availability and, therefore, the use of DLCO for ILD patients called our attention. This poses a paradox, since it is well known that during the last few years the availability of high-complexity pulmonary function tests has increased in Argentine provinces. Another relevant piece of information that derives from such comparison is the reduction in the use of corticosteroids and immunosuppressants (probably due to the dissemination of information about their toxicity), but this was not accompanied by a higher use of specific treatments, since the prescription rate of specific treatments was also low. However, it is highly worrying that even Argentine pulmonologists (51.6% of whom work at large hospitals and high-complexity facilities vs. 67% who work at low-complexity healthcare facilities) who completed the survey (half of whom stated they saw quite a few cases of IPF patients per year) still prescribe corticosteroids and immunosuppressants, a treatment proven to be ineffective and

highly unadvisable because it is associated with increase in mortality rates[20].

The publication of the 2011 Consensus[1] and continuous medical education programs conducted by the Argentine Association of Respiratory Medicine have not yet had the expected impact in reducing the prescription of useless drugs or encouraging interdisciplinary consultations. Behavioral changes as regards diagnosis and treatment (significantly different in the literature and the community of specialists) associated to the publication of the consensus and pivotal studies on the different treatments used have not changed the therapeutic decisions of Argentine surveyed physicians as expected. Obviously, emphasizing the need for continuous education programs in the management of these diseases is of paramount importance for any program aimed at improving care for these patients.

Among the limitations of this survey, we have to state, among others, low percentage of answers for some items and the responders arbitrary criteria to define high-complexity and low-complexity medical centers. Comparisons with other surveys are based only on estimates, since designs and populations are different. In addition to this, as mentioned before, the surveys included physicians engaged in the management of interstitial diseases.

However, it is worth pointing out that the number of responders represents almost one third of Argentine pulmonologists, since it is estimated that there are approximately between 900 and 1000 pulmonologists in our country.

The new challenge is to assess and identify the underlying causes of the barriers to diagnosis and treatment of these diseases in our setting. Promoting benchmark centers, creating surveys to identify problems, translating literature into our language, and using technology for on-line communication (e-mail or videoconference) could mark the start of a better implementation of recent international practice guidelines.

Acknowledgements: The authors want to acknowledge the collaboration of Dr. María Otaola, Dr. Valentina Di Boscio, Dr. Andrea Werbach, Dr. Liliana Castro Zorrilla, Dr. Santiago Rossi, Dr. Adrian Gaser, Dr. Fabian Caro, Dr. Gloria Olmedo, Dr. Luciana Molinari, Dr. Mirta Scarinci, Dr. Glenda Ernest, Dr. Flavia Lograd, Dr. Carlos Mosca, Dr. Raúl Darío Rey, Dr. Mariano Mazzei, Dr. J. Antonio Mazzei, Dr. Juan C. Spina, Dr. Nora Falcoff, Dr. Haydeé Gutiérrez, Dr. Lilian Capone, Dr. Liliana Dalurzo, who "on behalf of AAMR's Department of Interstitial Diseases" contributed to preparing and analyzing this survey. The authors also want to thank AAMR 2012-2013 Board of Directors for their unlimited support to this project.

Conflict of interest: The study was partially sponsored by DOSA laboratories. GT has received funding from GSK, BI, DOSA to attend conferences; is part of a protocol in IPF and pirfenidone funded by DOSA; speaker of BI and Bristol Myers Squibb. AP is employed by Novartis Argentina. BV has received funding for conferences and internships for Novartis, Raffo and DOSA. MFC is part of a protocol in IPF and pirfenidone funded by DOSA. JIE has received funding to attend conferences by Novartis, Montpellier, Phoenix and Roemmers; is a scientific advisor of Novartis. TP has received funding to attend conferences by DOSA, Boehringer, Bayer, Glaxo, Temis Lostalo and Biotoscana. SQ is a consultant in the research study "Safety of pirfenidone in IPF" sponsored by DOSA and speaker of BI.

References

1. Raghu G, Collard HR, Egan JJ et al. An official ATS/ERS/JRS/ALAT statement: idiopathic pulmonary fibrosis: evidence-based guidelines for diagnosis and management. Am J Respir Crit Care Med 2011; 183: 788-824.
2. Ley B, Collard HR, King TE Jr. Clinical course and prediction of survival in idiopathic pulmonary fibrosis. Am J Respir Crit Care Med 2011; 183: 431-440.
3. Cottin V. Current approaches to the diagnosis and treatment of idiopathic pulmonary fibrosis in Europe: the AIR survey. Eur Respir Rev 2014; 23(132): 225-30.
4. McGrath EE, Millar AB. Hot off the breath: triple therapy for idiopathic pulmonary fibrosis-hear the PANTHER roar. Thorax 2012; 67(2): 97-8.
5. Collard H, Loyd J, King TE Jr et al. Current diagnosis and management of idiopathic pulmonary fibrosis: A survey of academic physicians. Respiratory Medicine 2007; 101: 2011-2016.
6. Peikert T, Daniels C, Beebe TJ et al. Assessment of current practice in the diagnosis and therapy of idiopathic pulmonary fibrosis. Respiratory Medicine 2088; 102: 1342-1348.
7. Bando M. A prospective survey of interstitial idiopathic pneumonias in Japan. Article in press.
8. Cottin V, Cadranel J, Crestani B et al. Management of idiopathic pulmonary fibrosis in France: A survey of 1244 pulmonologists. Respiratory Medicine 2014; 108: 195-202.
9. Do Bois R. An early and more confident diagnosis of idiopathic pulmonary fibrosis. Eur Respir Rev 2012; 21: 124, 141-146.
10. Curbelo P. Encuesta de EPID en Latinoamérica-ALAT 2013. Respirar 2013; 5:2 5-8.
11. Quadrelli S, Ciallella L, Catalán Pellet A et al. Compromiso pulmonar en esclerosis sistémica. Medicina (B. Aires) 2007; 67: 5.
12. Molinari L, Quadrelli S, Tabaj G et al. Factores predictores de la caída de la saturación de oxígeno durante la caminata de 6 minutos en la fibrosis pulmonar idiopática. Rev Am Med Resp 2009; 9: 175-180.
13. Lama VN, Flaherty KR, Toews GB et al. Prognostic value of desaturation during a 6- minute walk test in idiopathic interstitial pneumonia. Am J Respir Crit Care Med 2003; 168: 1084-90.
14. Flaherty KR, Andrei AC, Murray S et al. Idiopathic pulmonary fibrosis: prognostic value of changes in physiology and six-minute-walk test. Am J Respir Crit Care Med 2006; 174: 803-9.

15. King TE, Bradford WZ, Castro-Bernardini S et al. A phase 3 trial of pirfenidone in patients with idiopathic pulmonary fibrosis. N Engl J Med 2014; 370(22): 2083-92.
16. Noble PW, Albera C, Bradford WZ et al. Pirfenidone in patients with idiopathic pulmonary fibrosis (CAPACITY): two randomised trials. Lancet 2011; 377: 1760-1769.
17. Idiopathic pulmonary fibrosis: The diagnosis and management of suspected idiopathic pulmonary fibrosis. Nice Guidelines 2013.
18. Cottin V, Crestani B, Valeyre D et al. Diagnosis and management of idiopathic pulmonary fibrosis: French practical guidelines. Eur Respir Rev 2014; 23(132): 193-214.
19. Behr J, Günther A, Ammenweth W et al. German guideline for diagnosis and management of idiopathic pulmonary fibrosis. Pneumologie 2013; 67(2): 81-111.
20. The Idiopathic Pulmonary Fibrosis Clinical Research Network. N Engl J Med 2012; 366: 1968-1977.