Original Article

Survey of physicians' approaches to the clinical evaluation of interstitial lung disease in Singapore (SoPhoCLES)

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Background: The diagnostic gold standard for interstitial lung disease (ILD) has evolved from histopathology to multidisciplinary discussion (MDD) consensus. However, physicians' practices remain heterogeneous, impacting upon core data acquisition, interpretation and eventual MDD diagnosis. Our study compared approaches between ILD (fellowship-trained and providing dedicated ILD services) and non-ILD physicians in Singapore.

Methods: Between October 2017 and January 2018, non-ILD respiratory physicians from public hospitals in Singapore were invited to participate in a survey designed by a focus group comprising ILD and non-ILD physicians. Responses of local ILD physicians were benchmarked against that of overseas ILD physicians from expert centres and thoracic radiologists.

Results: Fifty-nine of ninety-six (61%) local physicians responded. As practices between local and overseas ILD physicians revealed no significant differences, they were pooled together for analysis. ILD physicians diagnosed more cases annually, presented more frequently at MDD, utilised supportive tests more consistently, reported higher confidence levels interpreting high resolution computed tomography (HRCT) and placed higher weightage on physician rather than radiologist or pathologist opinion. In four case-based scenarios, there were higher levels of agreement in diagnoses among ILD than non-ILD physicians. Inter-rater agreement on radiological diagnoses was moderate among ILD physicians (κ=0.55) and between ILD

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physicians and radiologists (κ=0.56), but fair among non-ILD physicians (κ=0.29) and both physician groups (κ=0.25). Inter-rater agreement on clinical diagnoses was moderate among ILD physicians (κ=0.52), but fair among non-ILD physicians (κ=0.35).

Conclusions: Substantial differences between ILD physicians and non-ILD physicians exist. Early referral to appropriate expertise is recommended.

Keywords: Diagnosis; computed tomography; patterns; pulmonary fibrosis; questionnaires

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Introduction

Significant progress has been made in the diagnosis of interstitial lung disease (ILD), primarily the change in diagnostic gold standard from histopathology to robust multidisciplinary discussion (MDD) consensus (1-3). Although the strength of MDDs are well-recognized (4,5), most studies involved expert centres where high quality clinical data was elicited by physicians with appropriate expertise and practice caseload (4-7).

Considerable variability exists in diagnostic practices and what physicians consider "key data" for MDD evaluation. Inadequate history-taking was cited in the 2002 American Thoracic Society (ATS)/European Respiratory Society (ERS) consensus classification of idiopathic interstitial pneumonias as a common cause of misdiagnosis (8). A survey of physicians' practices in idiopathic pulmonary fibrosis (IPF) diagnosis found differences between physician groups in utilization of supportive tests such as high resolution computed tomography (HRCT) and autoimmune serology (9). When bronchoalveolar lavage (BAL) was performed, the presence of lymphocytosis altered diagnostic perception in a proportion of patients from IPF to hypersensitivity pneumonitis (HP) (10). Cases presented with incomplete information may lead to inaccuracies in diagnosis and treatment, resulting in misleading conclusions if recruited into clinical trials without proper adjudication. In Singapore, less than five respiratory physicians offer a formal ILD service in their centres. Consequently, ILD patients may often be managed by non- fellowship-trained physicians who infrequently manage ILD, and whose diagnostic thought processes may not be similar to that of established ILD physicians.

We sought to determine if differences exist in ILD diagnostic approaches and between ILD and non-ILD physicians. We defined ILD physicians as respiratory specialists who received fellowship training and provided dedicated ILD services in their centre, and non-ILD physicians as respiratory specialists who neither received similar training nor provided dedicated ILD services in their centre. We present this article in accordance with the SURGE reporting checklist (available at https://jtd.amegroups.com/article/view/10.21037/jtd-2025-1365/rc).

Highlight box

Key findings

- Significant differences exist between diagnostic approaches between interstitial lung disease (ILD) and non-ILD trained physicians.

What is known and what is new?

- Diagnostic gold standard for ILD is recognized as consensus among respiratory physician, radiologist and pathologist at multidisciplinary discussions (MDD). However, previous studies have shown significant differences even amongst physician groups in diagnostic practices.
- Our study demonstrates the importance of dedicated ILD training and expertise in the diagnostic evaluation of ILD, beyond the mere convening of physician, radiologist and pathologist.

What is the implication, and what should change now?

- Appropriate ILD training and expertise, case volume and standardization in evaluation is needed before cases are presented at MDD.

Methods

Questionnaire development

A focus group comprising five local respiratory physicians (three ILD and two non-ILD) discussed topics prior to the construction of the questionnaire until no further new ideas were generated. A pilot online questionnaire was developed by the principal investigator (PI) and completed independently by all focus group members. Based on feedback, the questionnaire was refined to minimize ambiguity in interpretation, and a final online version was created.

The survey was designed using the software, SoGoSurvey (Herndon, Virginia, USA), comprising the following sections (Appendix 1):

- Physicians characteristics and workload;
- ILD MDD structure and practice;
- Situational practices using case-based scenarios:
  - A case of newly diagnosed ILD;
  - Four case-based scenarios with HRCT (image acquisition; Appendix 2), pulmonary function test, BAL and other supporting data abstracted from de-identified electronic records of patients managed by the National University Health System. Patients involved had given consent for data to be used in the survey. None of the patients had undergone surgical lung biopsy. At the time of the study, these cases had been assessed independently by the PI and not discussed with any physician or MDD.

Online survey study

Certified respiratory specialists in all seven public hospitals in Singapore were invited to participate by email, followed by anonymized links to the online survey if they consented to proceed. The survey was conducted between 11 October 2017 to 2 January 2018. Five thoracic radiologists (3 local and 2 overseas) were also invited to independently rank their top three choices of HRCT diagnoses for the four case-based scenarios. As the number of ILD physicians in Singapore was small, four overseas ILD physicians from expert centres were invited to participate in the survey to benchmark local ILD physicians' practices.

Due to the small numbers of academic thoracic radiologists in Singapore, overseas radiologists served to benchmark local radiologists' responses.

Physicians were asked to rank their top three radiological diagnoses for cases 1–4, and clinical diagnoses for cases 1, 2 and 4. Radiological definitions of usual interstitial pneumonia (UIP) were referenced from the 2011 ATS/ERS/Japanese Respiratory Society (JRS)/Asociación Latinoamericana de Tórax (ALAT) IPF guidelines (2).

The study was conducted in accordance with the Declaration of Helsinki and its subsequent amendments. The study was approved by the Domain Specific Review Board of the National Healthcare Group (NHG), Singapore (No. 2017/00420). Informed consent was waived for study as it was an opt-in survey and anonymity was preserved.

Statistical analysis

STATA version 15.0 (version 15.0, StataCorp, College Station, TX, USA) was used to analyze the data. Associations between categorical variables were assessed with Fisher's exact test, with P values <0.05 considered significant. Gwet's AC (κ) was presented for the agreement of multiple raters defined in accordance with previous ILD literature on agreement (Appendix 3). For analysis of responses for the case scenarios, we focused only on first choice radiological and clinical diagnoses for analysis, due to the large number of variables in ranking of choices, and within constraints of the manuscript.

Due to the diverse clinical diagnoses offered by the non-ILD physicians, we regrouped clinical diagnoses for analysis in accordance with management strategies as follows:

Hence:

(I) IPF (managed with antifibrotics);
(II) Autoimmune (managed with immunosuppressants +/− antifibrotics);
(III) Environmental: drug-induced and HP (managed with removal of offending agent +/− immunosuppression;
(IV) Other (included rare entities like occupational lung disease which did not fall into the common categories, but constituted a minority).

In case 4, we grouped physicians who did not order basic autoimmune serology or chose no further testing after diagnosing a radiological pattern of UIP with those who diagnosed IPF.

Results

Fifty-nine (61%) out of 96 local respiratory physicians, and three overseas ILD physicians completed the questionnaire (recruitment pathway in Figure S1). One overseas ILD physician only completed responses to the diagnoses for case-based scenarios. Local and overseas ILD physicians' responses were grouped and analysed together as "ILD physicians" as no significant differences were found between physician characteristics and responses in both groups apart from sources of ILD referral (Tables S1,S2; Figure S2).

Physician characteristics and workload

There were no significant differences between physician groups in years' post-specialist experience or university affiliation, although non-ILD physicians tended to be younger (*Table 1*). ILD physicians diagnosed more ILD cases (at least 45 cases a year) than non-ILD physicians (P<0.001). Although not reaching statistical significance, the proportion of cases diagnosed as IPF tended to be greater in the non-ILD group: 17% of ILD (n=1) *vs.* 57% (n=32) of non-ILD physicians reported IPF as comprising more than 30% of ILD cases (P=0.09) (Figure S3). Most referrals to ILD physicians were from respiratory physicians (50%) and rheumatologists (18%), while most referrals to non-ILD physicians were from inpatient (50%) and primary care (30%).

MDD structure and practice

Eighty-nine percent (n=55) of physicians had MDD support, of whom 53% had ILD-specific MDD while 35% discussed ILD cases at a general respiratory MDD. ILD physicians presented cases more frequently (more than 50% of the time, P=0.03) during meetings. When asked which specialty input (physician versus radiologist versus pathologist) would most likely influence their diagnostic confidence during MDD, 100% of ILD physicians rated physician input as being most important, while 46%, 38% and 16% of non-ILD physicians rated physician, radiologist and pathologist input as being most important, respectively. All ILD physicians rated a moderate-to-high (defined as >70%) level of confidence in formulating an independent radiological diagnosis from specific HRCT patterns, compared with 25% of non-ILD physicians (P<0.001).

Apart from BAL (100% ILD *vs.* 36% non-ILD physicians, P<0.02), supporting data was presented with equal frequency during meetings (Figure S4).

Situational practices

A hypothetical 65-year-old patient with newly diagnosed ILD without any symptoms and signs of connective tissue disease was presented. Physicians were asked what tests they would order if the HRCT pattern reported (I) definite UIP; (II) possible UIP and (III) inconsistent with UIP. In both groups, as the uncertainty of a UIP pattern increased on HRCT, there was increased likelihood in performing BAL, autoimmune serology and lung biopsy (*Table 2*).

Case-based scenarios (Appendix 1; Figure S5)

Cases 2 and 3: physicians were asked to select their radiological diagnosis, followed by what they would do if their top three radiological choices were discordant with their radiologist. Of 52 discordant diagnoses, 12 non-ILD *vs.* 1 ILD physician would not seek a second radiologists' opinion. Case 4: a 63-year-old male ex-smoker with progressive respiratory and intermittent joint symptoms (without any signs of joint disease) was presented. Physicians were evaluated on the decision to order first tier autoimmune serology [defined as antinuclear antibody (ANA) and rheumatoid factor (RF) and/or anti-cyclic citrullinated peptide (anti-CCP) antibodies] if the HRCT suggested a UIP pattern. Physicians who did not select basic serology would be directed to the next question, while the remaining physicians would be shown serology results, then asked for a final clinical diagnosis. Seventy percent of non-ILD physicians diagnosed the HRCT as UIP, of which 21% would not order serology or further tests. All ILD physicians diagnosed UIP and would order serology.

Diagnoses of four cases

Radiological diagnoses

First choice radiological diagnoses by each specialist group are shown (*Figure 1*).

Diagnoses for radiologists more closely matched that of ILD than non-ILD physicians. There was a wider range of diagnoses offered by non-ILD physicians in each case.

For agreement analysis, "definite and possible UIP" were grouped as "UIP". Inter-rater agreement among different groups of specialists are reflected in *Table 3*. On first choice radiological diagnosis, agreement was moderate [κ=0.55 (−0.07 to 1.00)] among ILD physicians, moderate among thoracic radiologists [κ=0.53 (−0.06 to 1.00)] and moderate among radiologists and ILD physicians [κ=0.56 (0.10 to 1.00)]. Agreement was fair among non-ILD physicians [κ=0.29 (0.08 to 0.46)], fair among ILD and non-ILD physicians [κ=0.25 (−0.02 to 0.51)] and fair among radiologists and non-ILD physicians [κ=0.25 (0.02 to 0.47)].

Clinical diagnoses

First choice clinical diagnoses by physician groups (*Figure 2*) are shown. Non-ILD physicians offered a wider range of clinical diagnoses. These were regrouped into discrete categories of IPF, autoimmune, environmental and other, in accordance with different management strategies.

Agreement in the different physician groups are as shown in *Table 4*. This was moderate [κ=0.52 (−0.74 to 1.00)] among ILD physicians, fair [κ=0.35 (−0.31 to 1.00)]

Table 1 Characteristics of ILD and non-ILD physician groups

Variables	ILD (n=6)	Non-ILD (n=56)	P value
Age range (years)			0.07
<40	1 (17%)	31 (55%)	
40–49	5 (83%)	18 (32%)	
≥50	0	7 (13%)	
Years of specialist practice			0.20
5 or less	1 (17%)	29 (52%)	
More than 5	5 (83%)	27 (48%)	
University-affiliated hospital			0.17
Yes	6 (100%)	37 (66%)	
No of ILD cases seen/year			<0.001
45 or more	6 (100%)	2 (4%)	
Less than 45	0 (0%)	54 (96%)	
Percentage of IPF cases/year			0.09
Up to 30%	5 (83%)	24 (43%)	
More than 30%	1 (17%)	32 (57%)	
Origin & proportion of referrals[†]			
Respiratory physicians, %	50	0	0.001
Rheumatologist, %	18	10	0.20
General inpatient, %	10	50	0.001
Primary care, %	8	30	0.007
Oncology & transplant, %	5	0	0.14
Access to MDD			
Yes	6 (100%)	49 (88%)	0.99
Minimum MDD support[‡]			0.49
Yes	6 (100%)	39 (70%)	
No	0 (0%)	11 (20%)	
No access to MDD	0 (0%)	6 (10%)	
Frequency of case presentation			0.03
Never or no access to MDD	0 (0%)	11 (20%)	
Less than 50% of the time	1 (17%)	25 (44%)	
More than 50% of the time	5 (83%)	20 (36%)	
Specialty most likely to influence diagnostic confidence			0.01
Physician (self)	5 (83%)	9 (18%)	
Physician (other)	1 (17%)	14 (28%)	
Radiologist	0 (0%)	19 (38%)	
Pathologist	0 (0%)	8 (16%)	

Table 1 (*continued*)

Table 1 (*continued*)

Variables	ILD (n=6)	Non-ILD (n=56)	P value
Level of HRCT confidence			<0.001
70% or less	0 (0%)	42 (75%)	
More than 70%	6 (100%)	14 (25%)	
Statement: BAL alters working diagnosis			0.11
Disagree	0 (0%)	8 (14%)	
Neutral	0 (0%)	16 (29%)	
Agree	6 (100%)	32 (57%)	

†, percentages in median values; ‡, defined as comprising at least one ILD physician, radiologist and pathologist. BAL, bronchoalveolar lavage; HRCT, high resolution computed tomography; ILD, interstitial lung disease; IPF, idiopathic pulmonary fibrosis; MDD, multidisciplinary discussion.

Table 2 Tests ordered by physician groups based on HRCT patterns

Variables	ILD physicians (n=6)	Non-ILD physicians (n=56)	P value
BAL differential count			
Definite UIP	1 (17%)	2 (4%)	0.27
Possible UIP	5 (83%)	14 (25%)	0.009
Inconsistent with UIP	5 (83%)	30 (54%)	0.17
Autoimmune workup†			
Definite UIP	6 (100%)	42 (75%)	0.32
Possible	6 (100%)	47 (84%)	0.37
Inconsistent with UIP	6 (100%)	52 (93%)	>0.99
Lung biopsy (all types)‡			
Definite	0 (0%)	2 (4%)	0.64
Possible	2 (33%)	19 (34%)	0.98
Inconsistent	3 (50%)	38 (68%)	0.38

†, defined as at least comprising antinuclear antibody and rheumatoid factor and/or anti-cyclic citrullinated peptide antibodies; ‡, included surgical and transbronchial lung biopsy and transbronchial lung cryoprobe biopsy. BAL, bronchoalveolar lavage; HRCT, high resolution computed tomography; ILD, interstitial lung disease; UIP, usual interstitial pneumonia.

among non-ILD physicians, and fair [κ=0.36 (−0.35 to 1.00)] between the ILD and non-ILD physician groups. Using a dichotomised "IPF" *vs.* "Non-IPF" approach, agreement was perfect [κ=0.90 (0.40 to 1.00)] among ILD physicians, substantial [κ=0.63 (−0.52 to 1.00)] among non-ILD physicians, and substantial as a group [κ=0.65 (−0.34 to 1.00)].

Discussion

In our first nationwide ILD survey, we found distinct differences in diagnostic approaches and practices between ILD and non-ILD physicians. In particular, case volume (9,11-13), frequent MDD presentations (12), confidence in HRCT interpretation, physician-based decision-making at MDD (4) and case diagnosis differed between both groups, with local ILD physicians' responses comparable to that of physicians from overseas expert centres. Consistent with prior studies (11,13), these attributes reflect prior training and sufficient caseload through dedicated ILD services to acquire expertise. Despite a lower ILD caseload,

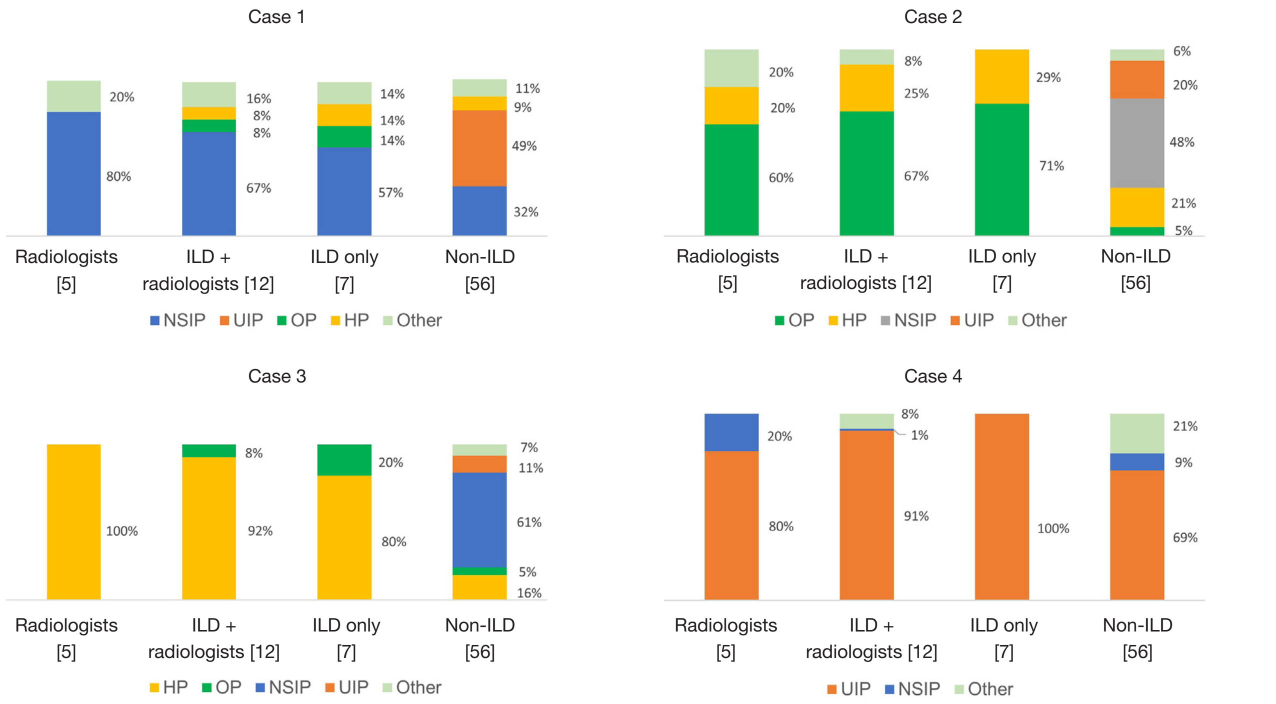

Figure 1 First choice radiological diagnoses for cases 1 to 4. The above diagnoses were reflected in each case as ratings by the majority of thoracic radiologists and ILD physicians. Definite and possible UIP were grouped together. HP, hypersensitivity pneumonitis; ILD, interstitial lung disease; NSIP, non-specific interstitial pneumonia; OP, organising pneumonia; Others, other diagnoses; UIP, usual interstitial pneumonia.

Table 3 Inter-rater agreement for radiological diagnosis among different groups

Variables	κ (95% CI)
All observers	0.24 (−0.10 to 0.58)
ILD and non-ILD physicians	0.25 (−0.02 to 0.51)
ILD physicians	0.55 (−0.07 to 1.00)
Non-ILD physicians	0.29 (0.08 to 0.46)
Radiologists	0.53 (−0.06 to 1.00)
Radiologists and ILD physicians	0.56 (0.10 to 1.00)
Radiologists and non-ILD physicians	0.25 (0.02 to 0.47)

CI, confidence interval; ILD, interstitial lung disease.

IPF diagnosis constituted a significant proportion of total ILD caseload in non-ILD physicians, exceeding most epidemiological data citing approximately 17–37% (14,15). There are a few possible reasons for this: firstly, non-ILD physicians may truly have a different case-mix of patients referred to them (e.g., primary care and inpatients), as subspecialty colleagues (e.g., rheumatologists and other respiratory physicians) may tend to refer patients with connective tissue disease or more complex patients to ILD physicians. Another reason could be narrower differential diagnoses amongst non-ILD physicians in evaluating complex ILD patients, resulting in a tendency to diagnose IPF as the most common form of fibrosing ILD by default. Previous studies on ILD subspecialty *vs.* non-subspecialty-based physicians had found the latter group more likely to ascribe a diagnosis to IPF (9,11), with potential management (16,17) and prognostic implications (18).

Flaherty's study on the effect of a multidisciplinary approach to ILD diagnosis (4) demonstrated that as information was incrementally provided to experts, radiologists were more likely to change their diagnoses than physicians. Furthermore, physicians identified pathologically-confirmed IPF cases more frequently (75%) than radiologists (48%) prior to presentation of histopathological information. It is likely, therefore, that skilled physicians must possess a certain level of radiological proficiency to integrate both imaging and clinical data

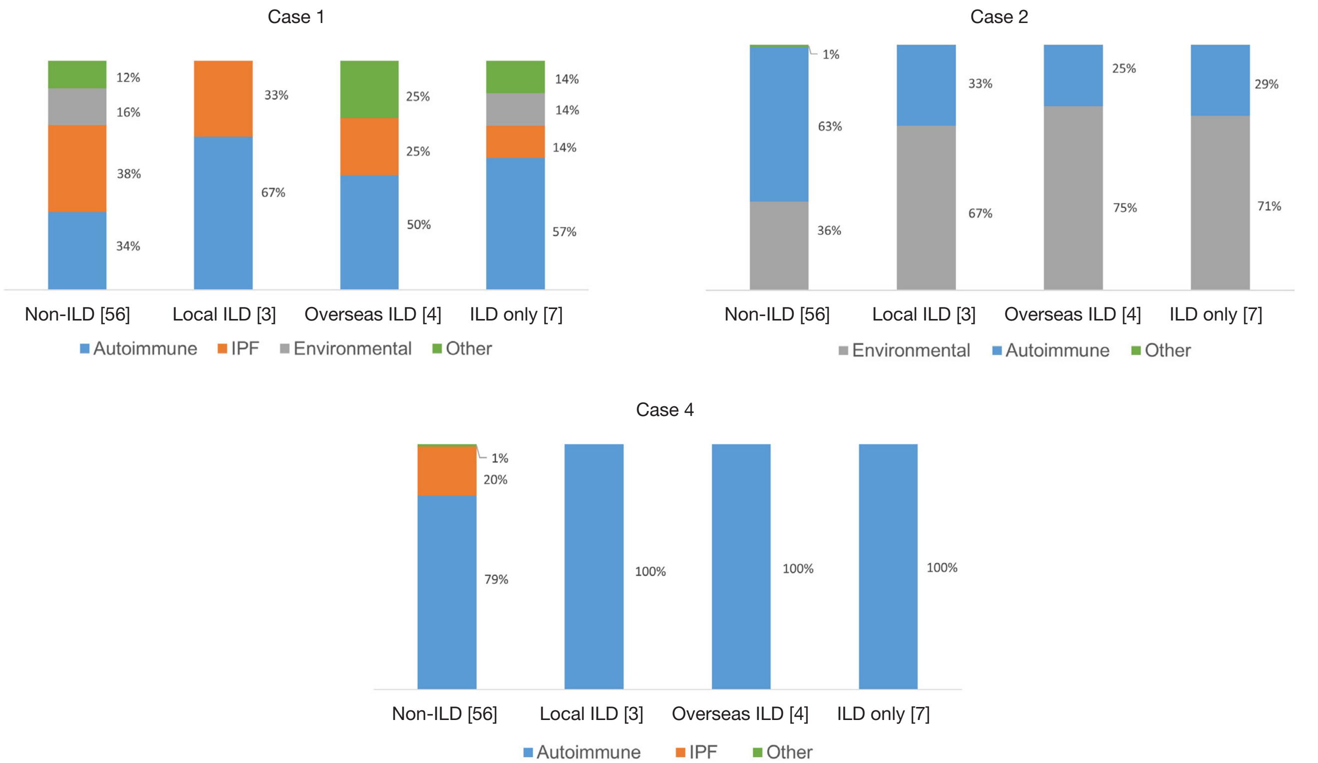

Figure 2 First choice clinical diagnoses for cases 1, 2 and 4. Autoimmune (NSIP/CTD-ILD/CEP), IPF, environmental (DILD/HP), Other-other diagnoses. CEP, chronic eosinophilic pneumonia; CTD-ILD, connective-tissue disease associated ILD; DILD, drug-induced ILD; HP, hypersensitivity pneumonitis; ILD, interstitial lung disease; IPF, idiopathic pulmonary fibrosis; NSIP, non-specific interstitial pneumonia; Other, other diagnosis.

Table 4 Inter-rater agreement for clinical diagnosis between different physician groups

Variables	ILD physicians (n=7) κ (95% CI)	Non-ILD physicians (n=56) κ (95% CI)	ILD and non-ILD physicians (n=63) κ (95% CI)
Kappa values for observer agreement for 1st choice clinical diagnosis			
Separate categories†	0.52 (–0.74 to 1.00)	0.35 (–0.31 to 1.00)	0.36 (–0.35 to 1.00)
IPF *vs.* non-IPF	0.90 (0.40 to 1.00)	0.63 (–0.52 to 1.00)	0.65 (–0.34 to 1.00)

†, the groups were categorized as "IPF, autoimmune, environmental and others" as explained in the main text. CI, confidence interval; ILD, interstitial lung disease; IPF, idiopathic pulmonary fibrosis.

before making a provisional diagnosis. Our study findings demonstrate this in the ILD group by a high level of confidence in independent HRCT interpretation and subsequent high concordance in radiological diagnosis with radiologists and overseas ILD physicians.

The relatively lower confidence level in HRCT interpretation among non-ILD physicians may be associated with the significant proportion who placed radiology input as most likely to influence their diagnostic confidence during an MDD, where nearly a quarter would not challenge a diagnosis discordant with their radiologist. Yet the ability to challenge, and the need for radiology expertise, is shown in a review of 200 second opinion ILD computed tomography reports by fellowship-trained thoracic radiologists: a specific diagnosis was more likely to be provided in 97% *vs.* 59% of initial reports, and be concordant with multidisciplinary consensus (19).

The case-based scenarios were designed to evaluate physicians' practices in "real-world" situations, e.g. joint symptoms with occupational exposure (case 4), radiologic-pathologic (trans-bronchial biopsy) mismatch (case 2), discordant radiology opinions (cases 2 and 3) and classic UIP radiology pending decisions for serologic testing (case 4). Prior to the 2018 ATS/ERS/JRS/ALAT guidelines which placed a motherhood statement on serological testing to exclude connective tissue disease (20), only a weak recommendation was placed on its role, with specific mention of ANA, RF and anti-CCP antibodies as first tier tests (3). Although this may explain the decision not to order autoimmune serologies in a minority of non-ILD physicians, all ILD physicians judged the need for serological testing to be mandatory and would do so without exception. However, there is debate among experts on which specific tests to perform (20). Hence, we allowed physicians who had chosen, at minimum, "ANA, RF and/or anti-CCP antibodies" in case 4 to view further data, taking into consideration that CTD (in particular, RA) can present with a UIP pattern and ILD may precede overt clinical manifestations of specific connective tissue diseases (21). This strategy revealed a small number of non-ILD physicians who diagnosed IPF solely based on a HRCT pattern of UIP.

In our study, ILD and non-ILD physicians were generally able to distinguish an IPF *vs.* non-IPF diagnosis as evidenced by the high levels of agreement between both groups for final clinical diagnosis when dichotomized into "IPF *vs.* non-IPF". This mirrors previous studies reporting greater consensus among multidisciplinary teams in expert centres for IPF versus non-IPF (e.g., chronic HP) diagnoses (12,22,23). It may be argued that this broad distinction is sufficient where anti-fibrotic therapy is considered. However, we believed that subtle distinctions may be important in certain situations, such as when the identification and removal of an offending environmental or drug agent may impact upon survival ("DILD/HP") (24), as opposed to treatment solely focused on immunosuppression ("NSIP/CTD-ILD/CEP"). Hence, we regrouped clinical diagnoses to reflect these differences.

Although agreement does not equate to diagnostic accuracy, we have shown that for both radiological and clinical diagnosis, the level of agreement among ILD physicians, both in expert centres and in our local setting, was higher than among non-ILD physicians. This suggests that pattern recognition skills, fine judgement with respect to exposures or the presence of an underlying CTD and a common language are pivotal in the diagnostic evaluation of ILD and better understood among physicians who manage similar rare diseases.

Our study was limited by the small number of ILD physicians in Singapore, accounting for the wide confidence intervals in agreement scores, although we had tried to demonstrate general trends between the ILD and non-ILD groups in the graphical comparisons. We believe that these trends are important and may be hypothesis-generating for future surveys when our numbers of local ILD physicians grow. With a lack of true gold standard in ILD diagnosis, we attempted to benchmark our approach with physicians from expert centres, which reflected similarities. However, it was not appropriate to recruit a disproportionate number of overseas physicians as the study largely aimed to compare local practices. Inaccurate recall and interpretation biases of questions are also possible. To avoid respondent fatigue, we restricted case scenarios to only four, which may not have been wholly reflective of physician's diagnostic choices. Nonetheless, our survey response of 61% reflected a majority compared to previous similar surveys (9), and agreement levels among physicians in our survey, using different parameters, appeared consistent. Although our study demonstrated significant differences in the diagnostic processes, and in some instances, treatment strategies between ILD and non-ILD physicians, it was not designed to assess how these differences affect clinical outcomes. However, prior work on the diagnostic separation between IPF and non-IPF had demonstrated prognostic differences (12,13).

Conclusions

This survey underscores the importance of individual domain expertise in ILD beyond the mere consortium of an MDD, stressing the importance of early referral to expert centres when managing rare diseases. In situations where there may truly be a lack of access to ILD subspecialty expertise, the discussion may default to being image- or pathology-driven (25). A compromise may be to collaborate with an expert centre to conduct online MDD meetings. Additionally, deep learning models using artificial intelligence may have an evolving role in radiological MDD input for the diagnosis of ILD (26). Notwithstanding, expert input with a central co-ordinating physician remains paramount. The ideal MDD setup, as recommended by the Australian position paper, should consist of a group of specialists with sufficient expertise in different domains to assess and make recommendations (23,27). Such skills must first be developed through subspecialty training (28), then further honed by managing a sufficient volume of cases.

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Footnote

Reporting Checklist: The authors have completed the SURGE reporting checklist. Available at https://jtd.amegroups.com/article/view/10.21037/jtd-2025-1365/rc

Data Sharing Statement: Available at https://jtd.amegroups.com/article/view/10.21037/jtd-2025-1365/dss

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Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki and its subsequent amendments. The study was approved by the Domain Specific Review Board of the National Healthcare Group (NHG), Singapore (No. 2017/00420). Informed consent was waived for study as it was an opt-in survey and anonymity was preserved.

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