CONCISE COMMUNICATION

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Screening high-resolution computed tomography of the chest to detect interstitial lung disease in systemic sclerosis: a global survey of rheumatologists

Interstitial lung disease (ILD) affects ~40–60% of adults with systemic sclerosis (SSc) and is the leading cause of death and hospitalization in this population (1–4). Despite the life-threatening nature of ILD and the availability of therapies (5,6), there are no clinical practice guidelines that recommend screening for ILD in SSc. Although pulmonary function tests are widely used by rheumatologists to screen for SSc-related ILD, studies have shown that they are neither

sensitive nor specific for detection of ILD in this population (3). High-resolution computed tomography (HRCT) of the chest is the gold standard for detection of ILD (7), but data on rheumatologists’ practices with regard to ordering HRCTs for their SSc patients have not been reported. We undertook a study to determine rheumatologists’ use of HRCT as a screening tool in their patients with newly diagnosed SSc.

We e-mailed a REDCap survey (8) to all 676 American College of Rheumatology member rheumatologists in New York, New Jersey, Pennsylvania, and Connecticut and to 356 SSc experts worldwide (defined as rheumatologist members of the Scleroderma Clinical Trials Consortium and/or the European League Against Rheumatism Scleroderma Trials and Research Group with at least 1 publication on SSc) to

Figure 1. A, Percent of responding general rheumatologists (n = 76) and systemic sclerosis (SSc) experts (n = 135) who routinely order screening high-resolution computed tomography (HRCT) of the chest in newly diagnosed SSc patients. B, Indications for chest HRCT among general rheumatologists (n = 34) and SSc experts (n = 43) who do not routinely order screening HRCT in all newly diagnosed SSc patients. The denominator ranges from 32 to 34 for general rheumatologists and 41 to 43 for SSc experts, due to variable response rates for individual questions. FVC = forced vital capacity; SpO₂ = peripheral arterial oxygen saturation; DLco = diffusing capacity for carbon monoxide; LLN = lower limit of normal; ANA = antinuclear antibody.

identify current HRCT screening practices for SSc-related ILD. Seventy-six (11%) of the general rheumatologists responded (of whom 73 see at least 1 new SSc patient per year), as did 135 (38%) of the SSc experts.

Overall, 51% of the general rheumatologist respondents and 66% of the SSc expert respondents reported routinely ordering HRCTs in all newly diagnosed SSc patients (Figure 1A). We identified significant global practice variation in HRCT screening practices among SSc experts. Screening HRCTs were routinely ordered by 0% of the respondents in Australia (0 of 5), 33% in Canada (2 of 6), 60% in the US (28 of 47), 79% in Europe (45 of 57), 80% in Asia (4 of 5), and 100% in Latin America (7 of 7). Moreover, among rheumatologists who do not routinely order screening HRCTs in their SSc patients, there was very little consensus regarding indications for HRCT in SSc (Figure 1B). For example, only 81% of SSc experts would order an HRCT for dyspnea on exertion, 74% for abnormal forced vital capacity (<80% of predicted), and 52% for abnormal diffusing capacity for carbon monoxide (<80% of predicted). The reason SSc specialists were less likely than general rheumatologists to order HRCT for certain indications was not explained by this study. Of the 95 SSc experts who answered a question about circumstances in which they would repeat an HRCT, 9 (9.5%) responded that they order a repeat HRCT in their SSc patients annually.

A limitation of this study is the low response rate. Given the wide practice variation in HRCT screening practices by both SSc experts and general rheumatologists, further research into the clinical impact of HRCT screening for ILD in SSc is needed. Such research will ultimately help inform the development of a clinical practice guideline for ILD screening in SSc, which would help harmonize rheumatologists' approach to identifying the leading cause of mortality in SSc.

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