GLOSSARY

PULMONARY ARTERIAL SYSTOLIC PRESSURE

Peak blood pressure in the pulmonary artery during the contraction of the heart; used as a high-specificity method for diagnosing pulmonary arterial hypertension

CARBON MONOXIDE DIFFUSION CAPACITY

This test determines how effectively gases are exchanged between the blood and airways in the lungs

PULMONARY ARTERIAL SYSTOLIC PRESSURE increased during treatment, but did not change in patients with ILD only. This indicates that PAH and ILD are the result of distinct disease processes with differing pathophysiology. The authors state that ILD is caused by inflammatory processes of systemic sclerosis and PAH is caused by vascular impairment.

These findings have important implications for treatment of patients with dcSSc. Since PAH does not seem to respond to immunosuppressive therapy, future studies should investigate therapies targeting the vascular component of dcSSc.

Rachel Murphy

Original article Trad S *et al.* (2006) Pulmonary arterial hypertension is a major mortality factor in diffuse systemic sclerosis, independent of interstitial lung disease. *Arthritis Rheum* 54: 184–191

Risk factors for pulmonary arterial hypertension in patients with systemic sclerosis

Pulmonary hypertension (PAH) is a frequent cause of death in patients with systemic sclerosis (scleroderma). Drug treatments for PAH are available, but are indicated only for systemic sclerosis patients with severe PAH or whose symptoms cause functional impairment according to New York Heart Association criteria. Chang *et al.*, therefore, aimed to identify factors that predict the development of severe PAH in patients with systemic sclerosis, because early initiation of treatment might be beneficial for those patients at high risk of PAH.

Their longitudinal cohort study included 361 patients with systemic sclerosis who had no initial evidence of PAH on echocardiography. During follow-up (mean duration 3.2 years), 48 patients developed severe PAH and 92 developed mild-to-moderate PAH. The authors monitored whether PAH symptoms improved or worsened.

Over a quarter of the patients in the highest-risk group—those with limited systemic sclerosis, mild-to-moderate PAH, and age ≥ 47 years at diagnosis—developed severe PAH. The authors could not determine, however, whether the elevated risk of PAH associated with older age at diagnosis was affected by duration of disease. Importantly, a CARBON MONOXIDE DIFFUSION CAPACITY at baseline of $<50\%$

of the expected value predicted development of severe PAH within 5 years, an effect that persisted after adjustment for lung volume.

Patients with systemic sclerosis with these risk factors might benefit from monitoring for the development of PAH.

Rachel Murphy

Original article Chang B *et al.* (2006) Natural history of mild–moderate pulmonary hypertension and the risk factors for severe pulmonary hypertension in scleroderma. *J Rheumatol* 33: 269–274

Radiographically visible damage predicts physical disability in rheumatoid arthritis patients

Cross-sectional studies have shown an association between radiographically visible damage and physical disability in patients with rheumatoid arthritis; however, there has been a lack of longitudinal studies to support any causal assumptions. A Dutch team has performed a 10-year study of patients with rheumatoid arthritis to address this gap in the literature.

In total, 149 patients completed the study, and their physical function, radiographic damage status and disease activity were assessed at baseline and at 1, 2, 5 and 10 years. Physical function was measured using the Health Assessment Questionnaire and a test of grip strength; radiographs of hands were assessed by an experienced reader; the erythrocyte sedimentation rate was used as a surrogate measure of disease activity. Ødegård *et al.* discovered that radiographically visible damage was indeed longitudinally associated with physical disability, and this association was independent of disease activity, disease duration, rheumatoid-factor status, age and sex. They also found that the rate of damage progression correlated with worsening physical function, independent of changes in disease activity.

The authors suggest that the latter finding in particular might have relevance to clinical practice—treatment that inhibits damage progression, even if it does not ameliorate disease activity, could still improve physical function.

Katherine Sole

Original article Ødegård S *et al.* (2006) Association of early radiographic damage with impaired physical function in rheumatoid arthritis: a ten-year, longitudinal observational study in 238 patients. *Arthritis Rheum* 54: 68–75