SSc-ILD: Progress in Diagnosis and Treatment

In this study by Guiot and Colleagues, they look to assess the levels of IGF-binding protein 1 and MMP-9, as well as other circulating nucleosomes as a new model to diagnose systemic sclerosis ILD. So really, there remains a lack of reliable biomarkers in ILD. And so what they look to evaluate is how we can use biomarkers to potentially identify SSc-ILD. In this cohort of 98 patients with systemic sclerosis, 31 of which had SSc-ILD, they measured plasma H3.1, IGFB-1, and MMP-9 levels. The authors found that H3.1 and MMP-9 levels were significantly higher in patients with SSc-ILD, while IGFBP1 levels were significantly lower as compared to patients with systemic sclerosis and no ILD.

They created a binary logistic regression model combining the levels of these nucleosomes, and were able to discriminate SSc-ILD from systemic sclerosis without ILD with a positive predictive value of 68%, a negative predictive value of 77%, and a specificity of 90%. A number of other biomarkers, including KL-6 and CCL18, have been identified as potentially diagnostic and prognostic in systemic sclerotic ILD. But there really remains a need for biomarkers to assess the overall risk of mortality, and also the probability of disease progression and treatment response. At this time, unfortunately, there are no easy-to-use or available biomarkers to evaluate the likelihood of ILD progression in the context of systemic sclerosis, although this is a step in the right direction.

Wuyts and colleagues present a subgroup analysis of the census trial regarding the baseline forced vital capacity value. Now, this trial is important because, as you know, showed that using nintedanib in patients with scleroderma-associated interstitial lung disease reduce the rate of decline over 52 weeks. So it's important to know whether this effect is homogeneous across different spectrum of disease, or is different based on the severity of the disease. And the authors decided to have two cats. One is for patient with an FVC at baseline above 90% predicted and the other below 90% predicted, and the other cat with a 60% predicted. So, patient with an FVC above 60% predicted or below 60% predicted.

Now the overall message of the study is that there is no statistically-significant difference in the rate of decline in these patient across the placebo groups, and the effect of nintedanib in reducing this rate of decline is homogeneous. This rate of decline was particularly evident in patient with an FVC below 60%, and the effect of nintedanib particularly evident, even if not statistically significantly different, in patient with an FVC above 60%. Even when the authors looked at composite categorical endpoint of efficacy, like 10% change, these was not different across the groups.

And last, importantly, the safety of the drug was not different in different groups of severity. So it doesn't matter overall if nintedanib is used in patient with scleroderma-associated interstitial lung disease when they start from preserved lung function or reduced lung function. Using the cats that have been analyzed in this abstract, the efficacy and the safety of the drug is basically similar across different groups.