POS1419

PREDICTIVE FACTORS FOR PULMONARY PROGRESSION IN PATIENTS WITH CONNECTIVE TISSUE DISEASE AND INTERSTITIAL LUNG DISEASE

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Background: Interstitial lung disease (ILD) is associated with decreased quality of life and higher mortality risk in patients with connective tissue disease (CTD). Outcome and treatment response to immunosuppressive therapies is unpredictable, and therefore the management of CTD-ILD can be challenging.

Objectives: Our study aimed to identify clinical and imaging factors that are predictive for outcome in patients with CTD-ILD.

Methods: We performed a retrospective cohort study in patients with CTD-ILD who were treated in our centre between 2004 and 2018. Clinical, biochemical data as well as pulmonary function test (PFT) and high-resolution computed tomography (HRCT) results were recorded. Two experienced chest radiologists independently and blindly reviewed the HRCT's. When the two chest radiologists assessed the ILD pattern differently, a diagnosis was made by consultation of a third expert. The ILD patterns were classified as fibrotic or inflammatory. Overall survival and progressive fibrosing interstitial lung disease (PF-ILD, defined as a significant decline of PFT and HRCT) after two years of treatment were assessed using a Kaplan-Meier plot. Multivariable Cox regression was including for treatment, comorbidity, and age as variables. Factors with a p value < 0.2 in the univariate analysis were included in the multivariate analysis. The correlation between the variation of serum markers and PFT over-time was evaluated with Spearman's Rho.

Results: In total, 150 patients with CTD-ILD were included, of which 53 (35.3%) had systemic sclerosis, 19 (12.7%) Sjogren's syndrome, 29 (19.3%) inflammatory myopathy, 24 (16%) rheumatoid arthritis, 5 (3.3%) systemic lupus erythematosus, 4 (2.7%) mixed connective tissue disease, and 16 (10.7%) undifferentiated connective tissue disease patients. Median disease duration of CTD was 14 months (IQR 2–73) in patients with CTD diagnosis before ILD onset. The median follow-up duration was 40 months (IQR 27.3–60.8). Thirty (20%) deaths occurred, in which the cause of death was a pulmonary infection in 6 (4%) patients and a respiratory failure due to ILD in 10 (6.7%) patients. PF-ILD occurred in 82 (54.7%) patients, which was associated with poor overall survival (HR 3.03, 95%CI 1.15–7.98) (Figure 1). Age, smoking, and steroid usage were associated with increased mortality risk as well (Table 1). There was no dose-related effect of smoking on mortality.

Figure 1. The Kaplan-Meier plot for progressive fibrosing interstitial lung diseases (PF-ILD). PF-ILD was defined as pulmonary function decline or high-resolution computed tomography progression after two years of treatment.

Inflammatory patterns on baseline HRCT were correlated with a lower risk of FVC decline than fibrotic patterns (OR 0.24, 95%CI 0.09–0.64). The increase in CA15.3 level was associated with the decline in FVC (Rho -0.308, p=0.037). Besides, the elevation in CRP was associated with the reduction in FVC (Rho -0.302, p=0.006) and DLCO (Rho -0.268, p=0.019).

Conclusion: Our study identified several factors associated with outcomes. Age, smoking, and steroid treatment increased the risk of mortality in patient with CTD-ILD. Inflammatory HRCT pattern at baseline revealed a better pulmonary outcome than a fibrotic pattern. The patients having PF-ILD after two years of treatment showed a higher mortality risk.

Table 1. Multivariable Cox-regression for the clinical risk of mortality.

Clinical factor	Crude HR (95%CI)	P	Adjusted HR (95%CI)	p
Age	1.11 (1.06–1.15)	1.7*10 ⁻⁶	1.12 (1.07–1.17)	3.54*10 ⁻⁶
Smoking	1.64 (0.79–3.43)	0.187	2.53 (1.11–5.78)	0.028
Congestive heart failure	1.86 (0.75–4.58)	0.179	1.17 (0.47–2.91)	0.737
MMF	0.55 (0.23–1.35)	0.195	0.73 (0.29–1.85)	0.512
Steroid	4.37 (1.67–11.45)	0.003	4.96 (1.84–13.40)	0.002

MMF, mycophenolate mofetil; HR, hazard ratio.

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POS1420

RISK OF SERIOUS INFECTIONS IN OFFSPRING EXPOSED IN UTERO TO USTEKINUMAB OR VEDOLIZUMAB

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Background: Ustekinumab, an IL-12/23 inhibitor, is indicated in adult patients with inflammatory bowel disease (IBD), psoriasis (PsO), and psoriatic arthritis (PsA) and vedolizumab, an $\alpha_4\beta_7$ receptor antagonist is indicated in IBD only. Both are monoclonal antibodies harbouring an Fc portion, which are actively transported across the placenta, often reaching higher fetal than maternal levels. As fetuses could be exposed to therapeutic or supra-therapeutic levels of these drugs, there are concerns that these agents could cause immunosuppression after birth. However, evidence is lacking.

Objectives: We compared the risk of serious infections in offspring exposed to ustekinumab, vedolizumab, tumour necrosis factor inhibitors (TNFi), and non-biologic immunosuppressives versus offspring unexposed during pregnancy among women with IBD, PsO and/or PsA.

Methods: We conducted a retrospective cohort study using the US MarketScan database, an employment insurance database. We included live births (01/2011–12/2018) among women with PsO, PsA, and/or IBD. Drug exposure was defined as ≥ 1 filled prescription or infusion procedure code during pregnancy. In offspring, we evaluated serious infections within the first year of life as any single inpatient infection code. We performed multivariate analyses using logistic regression, adjusting for maternal age, co-morbidities, corticosteroid use, concomitant drug use, and preterm birth.

Results: We included 16,115 offspring born to 7,612 women with PsO/PsA, 8,315 with IBD, and 188 with PsO/PsA and IBD. A total of 52 offspring were exposed to ustekinumab, 43 to vedolizumab (including 7 to both TNFi and vedolizumab), 1,578 to TNFi, 1,857 to non-biologic immunosuppressives alone, and 12,585 unexposed to any drug. The percentage of serious infections in offspring exposed to ustekinumab was 3.9% (95% CI 0.5–13.9), versus 2.7% (95% CI 1.9–3.6) for TNFi, 2.3% (95% CI 0.06–13.0) for vedolizumab and 2.6 (95% CI 2.3–2.8) for those unexposed to any drug, though all estimates had wide, overlapping confidence intervals. Compared to children unexposed to any drug, there was a potential trend for increased risk with ustekinumab (OR 1.54, 0.37–6.45), but CIs were wide and included the null. For those exposed to vedolizumab (OR 0.82, 0.15–5.91) or TNFi (OR 0.98, 0.68–1.40) there was no clear excess risk.

Conclusion: In a large cohort, we did not detect a clear excess risk for offspring exposed in-utero to vedolizumab or anti-TNF's, compared to unexposed patients; there was a signal for more events with ustekinumab, but confidence intervals were wide. Ongoing caution, as well as more research on short and long-term effects, is warranted for biologics actively transported across the placenta

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POS1421

HIGHER SERUM URIC ACID IS ASSOCIATED WITH INCREASED RISK OF OBESITY IN CHINESE ADULTS: A LONGITUDINAL DATA ANALYSIS

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