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and D-dimer. Anti-SARS-CoV2-Ab seroconversion was observed. Follow-up echocardiography revealed signs of a recent myocarditis with minimal pericardial effusion which was asymptomatic.

Discussion: We report a case of a COVID-19 disease presenting as acute urticaria and acute hepatitis, together with asymptomatic myocarditis in the absence of respiratory symptoms. The case was misdiagnosed as food allergy which postponed initial proper diagnosis and treatment. We assume acute urticaria, acute hepatitis, and myocarditis were directly caused by SARS-CoV2 infection, which quickly improved in the absence of specific therapy. Differential diagnosis of drug-induced liver injury might be considered as a rare corticosteroid adverse drug reaction.

348 | Oral plasma kallikrein inhibitor KV998052 improves arterial blood oxygenation in a murine model of acute respiratory distress syndrome (ARDS)

Murugesan N; Clermont AC; Feener EP

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Background: The aim of this study is to evaluate the effects of plasma kallikrein (PKa) inhibition on blood oxygenation in an established mouse model of ARDS.

Method: Tracheostomy was performed on C57BL/6 mice under isoflurane anesthesia. 0.1N HCl (pH 1.25) was instilled to induce ARDS and control animals were instilled with saline. PKa inhibitor KV999272, at 14.4 mg/kg/day, was administered via subcutaneously implanted Alzet mini-osmotic pumps. KV998052 was administered orally, BID, at 45mg/kg. Bronchoalveolar lavage fluid (BALF) was collected via a blunt cannula inserted into the trachea. Protein concentrations in the BALF were measured using a BCA protein assay. High-molecular weight kininogen (HK), PKa, and myeloperoxidase were measured by immunoassay using the WES System (ProteinSimple). Contact system activation was triggered with dextran sulphate (DXS, Sigma, 6.25 µg/ml) in undiluted citrated mouse plasma in the absence or presence of PKa inhibitor KV998052. Arterial blood oxygenation (oxygen saturation, sO₂, %) was measured using a paw pulse oximeter (Kent Scientific).

Results: PKa levels were increased in BALF at 5h, 24h and 48h in HCl-instilled ARDS mice compared to saline-instilled controls. Baseline mouse arterial blood sO₂ was 95±0.7% (n = 12). sO₂ levels were significantly decreased in HCl-instilled mice compared with saline-instilled mice at both 24h (75.9% vs 90.7%, p = 0.002) and 48h (76.1% vs 91.4%, p = 0.037). Decreasing sO₂ correlated with increasing total protein concentration and PKa in BALF from HCl-instilled lungs. Myeloperoxidase, a neutrophil marker for inflammation, was also elevated in the BALF from HCl-instilled lungs compared to lungs instilled with saline. Systemic administration of KV999272 was associated with higher sO₂ in HCl-instilled mice compared with vehicle treated mice (88% vs 79%, p = 0.0078). KV998052 a potent, selective, and orally available PKa inhibitor prevented DXS stimulated HK cleavage in mouse plasma. Pretreatment of mice with orally administered KV998052 was associated with significantly higher sO₂ in

mice with HCl induced ARDS compared with mice receiving vehicle (90.2% vs 83%, p = 0.031).

Conclusion: Oral plasma kallikrein inhibition improves arterial blood oxygenation in a murine ARDS model. Plasma kallikrein inhibition may provide a therapeutic opportunity for treating ARDS symptoms.

492 | Coronavirus 19 and behavior of pollen allergy sufferers reflected in google trends and sales of antihistamines

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Background: Coronavirus (COVID 19) changed peoples' behavior and attitudes with increased fear levels of infectious diseases. Some symptoms of seasonal allergy are similar to COVID 19 disease. This study assesses changes in pollen sufferers' behavior during the COVID 19 lockdown using data including information requests on the internet and use of anti-allergic drugs.

Method: Data request frequency for "coronavirus disease", "coronavirus" and other similar Google requests were assessed in Ukraine during 2020. Sales data for antihistamines for systemic use (ATC code R06) in Ukraine in 2016–2020 were obtained using market research «PharmXplorer». Monthly fluctuations of the antihistamines sales were analyzed for each year. Pollen counts for 2016–2020 were obtained from the database of the Laboratory of the Environmental Allergic Factors Investigation at the National Pirogov Memorial Medical University, Vinnytsya, Ukraine.

Results: During the COVID 19 strict lockdown a sharp decrease in antihistamine sales occurred in April, 2020 despite high pollination of *Betula*, the key spring airborne allergen in Ukraine. Compared with March 2020, sales in April were 1.5 fold less while in prior years more antihistamines were sold in April than in March. After the easing of lockdown restrictions during the beginning of grass pollination, sales of antihistamines began to grow and peaked in August, during the ragweed season, when there was no strict lockdown in Ukraine. Peak Google terms activity seeking COVID 19 information occurred at the beginning of the *Ambrosia* season, on August 5, 2020 although COVID 19 morbidity in Ukraine was comparable at that time with other summer months suggesting that confusion of seasonal allergy symptoms with COVID 19 symptoms led to more Google terms searches for COVID 19 information.

Conclusion: During strict lockdown avoidance of springtime outdoor activities likely lessened antihistamine use. Ease of lockdown restrictions promoted seasonal allergy symptoms and likely some confusion of allergy versus COVID 19 symptoms especially at the beginning of the Ragweed season. Thus, accurate pollen forecast and information campaigns on differences between COVID 19 viral disease versus allergic disease symptoms is critically important during this pandemic.