Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

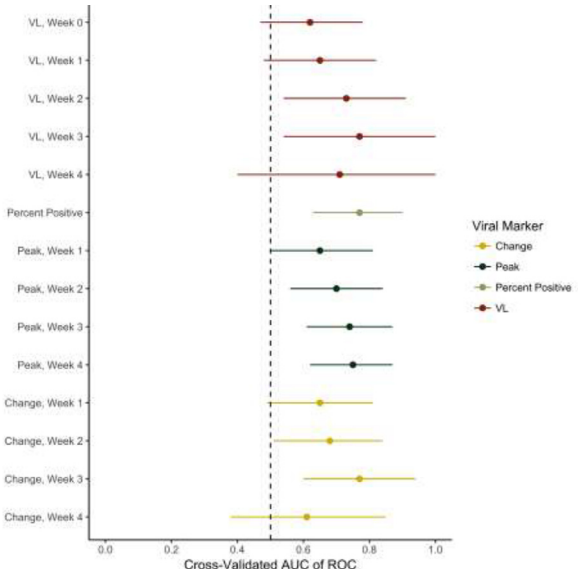

Fig. 2. SuperLearner Area Under the ROC Curve for Prediction of CMV Disease by Viral Marker.

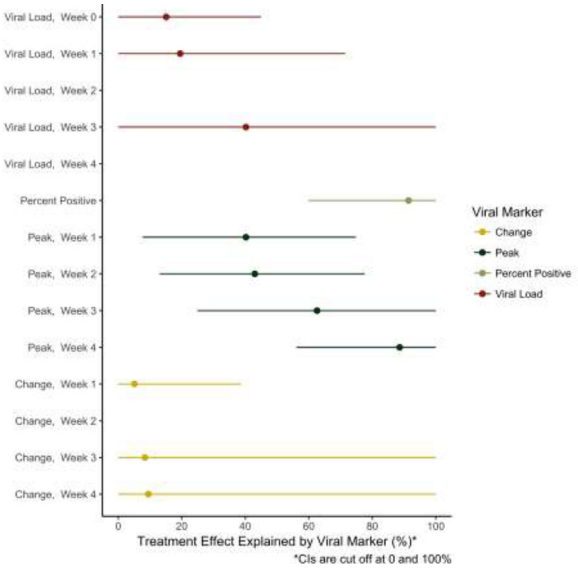

Fig. 3. Non-parametric estimation: Percent of Ganciclovir Effect Explained by Viral Marker.

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Do Peri-Transplant Respiratory Viral Infections Increase Incidence of Idiopathic Pneumonia Syndrome or Bronchiolitis Obliterans in Pediatric Pateints?

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Background: Upper respiratory viral infections are common in the pediatric population. Idiopathic pneumonia syndrome (IPS) and bronchiolitis obliterans (BO) are rare, but devastating and life-threatening complications post hematopoietic stem cell transplant (HSCT). It has been suggested in work by others that IPS and BO are consequences of early inflammation, and recent data support this hypothesis (Versluys et al, Translational and Clinical Immunology, 2018). Respiratory viral infections early in the peri-transplant period may result in inflammation leading to development of IPS and BO post HSCT.
Objectives: The primary objective of this study was to determine whether pre-transplant respiratory viral infection or colonization increase incidence of IPS and BO. We hypothesized that patients who acquire respiratory viral infections in the peri-transplant period have increased incidence of IPS and BO.
Methods: We abstracted and analyzed clinically collected data and compared the frequency of post-transplant respiratory viral complications with the presence of upper respiratory viral infections within 30 days prior to transplant. A Broncho alveolar lavage (BAL) or a nasal swab were used to identify upper respiratory viral infections. Epstein Barr virus (EBV), cytomegalovirus (CMV) and other upper respiratory viral infections were tested in 181 patients, transplanted between 2008 and 2018. Outcomes studied included IPS, BO, transplant associated thrombotic microangiopathy (TMA), graft versus host disease (GVHD), and overall survival (OS). Patients who did not have a BAL or a nasal swab within 30 days prior to transplant were excluded.
Results: Forty seven of 181 patients had a positive BAL or nasal swab prior to HSCT (group A). There were 53 documented respiratory viral infections in group A. Two tested positive for either coronavirus, herpes simplex virus (HSV) or para-influenza virus, 3 tested positive for adenovirus, human herpes 6, influenza, or respiratory syncytial virus (RSV), EBV and CMV were detected in 9 patients, 1 patient had human metapneumovirus and there were 16 rhino virus infections documented prior to HSCT. Some patients tested positive for more than 1 respiratory viral infection at the time of testing.
Results of our study are summarized below in Figure 1.

Upper respiratory infections and outcomes			
Outcome	**Group A (Yes n=47)**	**Group B (No n=134)**	**p-value**
BO	2	7	1
Ventilator	17	40	0.47
TMA	9	32	0.55
Pneumonia	6	16	1
GVHD	11	47	0.15
Alive	31	96	0.46

Figure 1.

Conclusion: Contrary to our hypothesis, our data do not support an association between upper respiratory viral infections prior to transplant and post-transplant IPS or BO. Our data may differ from the findings of others due to a relatively small number of events in our population, or to differences in patient populations being studied, or to differences in transplant strategies.

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Early Respiratory Viral Acquisition after Allogeneic Hematopoietic Cell Transplant (HCT)

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