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Title: Clinical pattern of LRTI with RSV and hMPV in immunocompromised patients

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Body: Infections are very common in immunocompromised patients. Bronchoscopy with BAL is an established diagnostic tool in this patient group. Multiplex PCR allows a faster detection of viral infections and a rapid therapeutical intervention and/ or deescalation of empiric antibiotic therapy. We analysed the samples of 971 immunosuppressed patients undergoing bronchoscopy for respiratory symptoms from October 2009 until December 2012. In 37 samples RSV and in 25 cases hMPV could be detected. One case showed a combination of RSV and hMPV. The underlying dise consisted of transplantation for lung (13) and kidney (1), haematological disorders (34) and others (ILD 4, rheumatological 3, ABPA 1, Asthma 2, HIV 1, immunglobuline deficiency 1). Clinical symptoms consisted of cough (50), sputum (20), fever (16), dyspnoe (16) and FEV1 decline (4). Thoracic CT scans revealed infiltrations (22), ground glass opacities (4), bronchiolitis (3) and a cavern (1). 16 CTs were without any pathological findings. Bronchoscopy showed purulent secretion (19) or mucosal redness (25). In 14 cases were no macroscopical evidence for an infection. Most often a single viral infection could be detected. In a few cases we found RSV in combination with Rhinovirus (1), Adenovirus (1) and CMV (1) or hMPV associated to Rhinovirus (3), Coronavirus (1), HSV 1 (3), CMV (3) and Influenza (1). Conclusion: RSV and hMPV in LRTI are not infrequent in immunocompromised patients. Typical signs/ symptoms are cough, infiltrates on CT scan and purulent secretion. The early differentiation of viral infection with Multiplex PCR allows a rapid targeted therapy for RSV or hMPV and the early suspending of antibiotics while missing bacteria in the samples.