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Review

Community acquired respiratory virus infections in cancer patients—Guideline on diagnosis and management by the Infectious Diseases Working Party of the German Society for haematology and Medical Oncology

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Abstract ***Background:*** Community acquired viruses (CRVs) may cause severe disease in cancer patients. Thus, efforts should be made to diagnose CRV rapidly and manage CRV infections accordingly.
Methods: A panel of 18 clinicians from the Infectious Diseases Working Party of the German Society for Haematology and Medical Oncology have convened to assess the available literature and provide recommendations on the management of CRV infections including influenza, respiratory syncytial virus, parainfluenza virus, human metapneumovirus and adenovirus.
Results: CRV infections in cancer patients may lead to pneumonia in approximately 30% of the cases, with an associated mortality of around 25%. For diagnosis of a CRV infection, combined nasal/throat swabs or washes/aspirates give the best results and nucleic acid amplification based-techniques (NAT) should be used to detect the pathogen. Hand hygiene, contact isolation and face masks have been shown to be of benefit as general infection management. Causal treatment can be given for influenza, using a neuraminidase inhibitor, and respiratory syncytial virus, using ribavirin in addition to intravenous immunoglobulins. Ribavirin has also been used to treat parainfluenza virus and human metapneumovirus, but data are inconclusive in this setting. Cidofovir is used to treat adenovirus pneumonitis.
Conclusions: CRV infections may pose a vital threat to patients with underlying malignancy. This guideline provides information on diagnosis and treatment to improve the outcome.

1. Introduction

The importance of community acquired respiratory virus (CRV) infections is increasingly recognised. CRV are responsible for respiratory infections, which usually present as a common cold in the immunocompetent individual but may be life-threatening in the immunocompromised host. Usually, orthomyxoviridae (influenza A, B and C), paramyxoviridae (including parainfluenza 1–4 [PIV], respiratory syncytial virus A and B [RSV], and human metapneumovirus [hMPV]), coronaviridae, picornaviridae (including >100 different serotypes of rhinovirus and enterovirus), adenoviridae, polyomavirus type 1 and bocavirus are regarded as potential causes of CRV infection. This guideline is intended to give haematologists and oncologists a broad overview with regard to clinical relevance and diagnosis of CRV infection and management of cancer patients affected by CRV. Detailed information on respective viruses including emerging resistance is not the scope of this guideline. Most data on this topic originate from patients following allogeneic stem cell transplantation (allo-SCT), and we know little about CRV infections in cancer patients outside the setting of allo-SCT. However, in recent years increasing evidence has been gathered about other cancer patients, revealing clinical relevance of CRV infections in non-transplant patients. Therefore, this guideline discusses CRV infections in all cancer patients with ongoing relevant immunosuppression. It is left to the treating physician to assess the degree and relevance of immunosuppression in the individual patient.

2. Methods

This guideline has been developed by a panel from the Infectious Diseases Working Party (AGIHO) of the German Society of Haematology and Medical Oncology including 17 experts certified in internal medicine, haematology/oncology, infectious diseases, microbiology/virology or radiology and one medical student. First, predefined topics were delivered by the designated coordinator (MvLT) to all participants of the panel to form subgroups. Data were extracted and tabulated after a systematic literature search by subgroup members and revised in several steps by the