setting and prioritization of at-risk populations within the oncology setting would further prevention efforts. Surveillance should be expanded to determine disease-specific incidence at a population level. Certain highly immunocompromised patients ultimately rely on population herd immunity as the only defense mechanism against pertussis. Improvement in the current vaccination coverage is imperative.

Notes

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Respiratory Syncytial Virus Infection Morbidity in the Elderly: Time for Repurposing of Ribavirin?

To the Editor—We have read with great interest the report by Ackerson et al [1] on the morbidity and mortality rates associated with respiratory syncytial virus (RSV) compared with influenza virus infections in older adults. They conclude that RSV may result in higher morbidity and mortality rates among older hospitalized adults than influenza virus.

These results are an important step in recognizing the impact of RSV across the whole patient population. Historically, the most attention has been paid to RSV infections in infants and in the moderately to severely immunocompromised and less to infection in the population described by Ackerson et al [1], namely, adults >60 years old. Unlike previous reports comparing hospitalization in RSV and influenza virus infections, the authors found a higher incidence of hospitalizations lasting ≥7 days in the RSV cohort than in the influenza virus cohort, which they suggest may reflect the increased use in recent years of antivirals directed at influenza virus, but not RSV. They reported that 47.1% of RSV-infected and 78.6% of influenza virus–infected individuals received antiviral therapy during the hospitalization period; 99% received oseltamivir, even though oseltamivir has no activity against RSV [2].

Inhaled ribavirin and palivizumab are currently the only registered treatment options for RSV in addition to supportive care; however, inhaled ribavirin is rarely used in nonimmunocompromised adults because of the limited evidence for its efficacy, its price, and the occupational risk to healthcare workers exposed of ribavirin aerosols [2, 3]. Vaccines and new antivirals are being tested, but they are not yet available for daily practice. The aging population, however, may benefit from using oral ribavirin, which has been described in the setting of hematopoietic stem cell and lung transplantation [4]. Although evidence from randomized controlled trials is lacking, ribavirin treatment may have a beneficial effect in reducing morbidity and mortality rates or improving recovery of pulmonary function after RSV infection in transplant recipients [5–7]. As shown elsewhere, oral ribavirin may not be inferior to inhaled therapy in this population and may provide a good and affordable treatment option [8, 9]. Whether these data can also be applied to the population of older adults remains to be confirmed.

The absence of evidence for the efficacy of oral ribavirin in elderly persons, combined with the widespread incidence and detrimental effects of RSV infection in this population, shown by Ackerson et al and others [1, 10], underlines the need for a well-designed randomized controlled trial to determine the benefit of a short course of oral ribavirin for RSV in elderly patients, analogous to the current use of oseltamivir for influenza virus. This is especially important in the light of upcoming (and probably expensive) new antivirals, for which ribavirin could be considered as an active comparator. Furthermore, considering the high incidence and availability of quick diagnostic methods for RSV, we deem such a study not only needed but also certainly feasible.

Note

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Reply to De Zwart et al

To the Editor—We thank de Zwart and colleagues for commenting on our recently published paper and for providing additional insights [1]. As they note, we found that respiratory syncytial virus (RSV) infection was associated with serious illness among hospitalized older adults that resulted in morbidity and long-term mortality that appeared to be even greater than that associated with influenza infection [2]. We agree that this report adds to a growing body of evidence that RSV infection is associated with severe disease in the expanding population of older adults in whom RSV vaccines and therapeutic agents with activity against RSV are needed.

Despite a paucity of clinical trial data, there is evidence from several retrospective studies that ribavirin (RBV), sometimes given with immunomodulating agents, appears to reduce the risk of progression of RSV disease and RSV-associated morbidity and mortality in immunocompromised patients, particularly in lung and hematopoietic cell transplant (HCT) recipients [3]. As de Zwart et al note, determining whether similar benefits of RBV extend to older adults infected with RSV can best be answered by well-controlled clinical trials. As they also observe, oral RBV is an attractive option given its ease of administration, greater safety for patients and healthcare personnel, and reduced cost yet similar efficacy compared to aerosolized RBV in HCT recipients with RSV infection [4]. However, antiviral agents given after progression of RSV from upper to lower respiratory infection and suppression of viral replication alone may not always prevent progressive pulmonary dysfunction associated with RSV disease that likely contributes to the severe morbidity and mortality observed [5, 6]. Hence, early identification of RSV infection and prompt initiation of antiviral therapy, possibly combined with immunomodulating agents, chest physiotherapy, and other interventions may be important to improving outcomes following RSV infection, particularly in patients at risk of severe disease [3, 7]. Given the limited benefit of RBV in the treatment of RSV disease in some high-risk populations [8], we are hopeful that RSV vaccines and therapeutic agents with efficacy against RSV-disease in a broad range of populations become available soon.

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