

Editorial

Hot Topics in Viral Infections

In recent years, it seems that viral infections have dominated medical news and the lay press. Whether emerging or re-emerging, viral outbreaks have been plentiful: Ebola in West and Central Africa, Zika spreading like wildfire across the Americas and Caribbean, hepatitis C virus (HCV) increases associated with a national epidemic of opioid abuse, the worst season of influenza in the past 10 years with a seasonal vaccine that offered substandard protection.¹⁻⁴ The list goes well beyond these examples, and practitioners everywhere are faced with how to manage these infections on a day-to-day basis. In this Infectious Diseases Specialty Update of *Clinical Therapeutics*, we have assembled experts on many of the above-mentioned viral infections to offer their insight on the current state of the field.

While some infections may wax and wane in their activity and relevance to medical providers, respiratory viruses like respiratory syncytial virus (RSV) and influenza remain a constant. The flu season comes every year, and we as providers are still left with vaccines that offer about 50% efficacy against infection and antivirals that may reduce symptoms by about a day.^{5,6} RSV is still a leading cause of hospitalization in young infants and has been a major cause of morbidity and mortality in immunocompromised patients of all ages.⁷ However, there is good news on the horizon, as the field is on the verge of a major shift in our ability to treat these infections with several agents that target new sites of viral replication. Drs. Nicholson and Munoz offer a thorough review of current and future antivirals against both RSV and influenza.⁸ In their piece, they highlight how things will change but also offer a healthy dose of caution:

Even though the broad range of potential therapeutics for RSV and influenza are promising, establishing the ideal therapeutic for these infections will undoubtedly require sustained efforts. Such a therapeutic would be effective against all strains of the respective virus, present a low likelihood of resistance, offer a wide treatment window and improve patient outcomes, including the prevention of life-threatening complications. Because respiratory viruses act quickly on the host, it has been difficult to outpace the virus once it has gained a foothold. This has been evident among potential influenza therapeutics, as they may decrease viral load but do not necessarily provide clinical benefit. ... A broadly effective life-long vaccine is the ultimate goal for the adequate control of both viruses.

Given that providers in all specialties and settings will likely use these new agents, this review will be of great interest and value.

On a highly related topic, the live, attenuated influenza vaccine has experienced a "roller coaster" history over the past few years. After the withdrawal of any recommendation for its use in the United States for the past 2 years, it has been reinstated for this coming flu season. In a contribution of my own, I review this tumultuous recent history along with the data that led to the controversial withdrawal and reinstatement.⁹ In my introduction, I try to offer the context for why this issue is important:

The 2017–2018 Influenza (flu) season was the most active since the pandemic 2009 season and marked the second season in a row that the Advisory Committee for Immunization Practices (ACIP) did not recommend the live attenuated influenza vaccine (LAIV) for use in preventing flu in the United States. LAIV has had a tumultuous recent history with many changes in its status: it was approved for many years, then it was preferred, then it was not preferred, then it was not even recommended, and for next season, it will return as an option but without a preference. All of these changes have happened in the last five years and are difficult to understand without a significant amount of explanation. The goal of this commentary is to try to explain this complicated history and to offer some perspective for what the future may hold for LAIV and flu prevention.

Because the details of how and why LAIV lost its endorsement for use in the United States are still unknown by most providers, this commentary provides a concise review of that information to improve communication with patients when they ask questions about the vaccine.

The discussion of LAIV recommendations segues nicely to a discussion about the role of the Advisory Committee on Immunization Practices (ACIP). Most providers are not familiar with how a vaccine goes from approval to recommendation to routine use. In the United States, the ACIP plays a significant role in this process. In their contribution, Drs. Bell, Shane, and Pickering review the unique role that ACIP plays, and examine providers' knowledge of how ACIP recommendations differ from actual Food and Drug Administration (FDA) approvals.¹⁰ They outline the discussion in this way:

In contrast to FDA, ACIP does not have regulatory authority. ACIP is chartered as a federal advisory committee to provide expert external advice and guidance to the Director of the CDC regarding use of vaccines and related agents for control of vaccine-preventable diseases in the civilian population of the United States... ACIP reviews data from clinical trials that support FDA licensure as well as additional data that may not have been submitted as part of the FDA licensure process.

This piece will help readers better understand the nuance of vaccine policy in the United States, and why a new viral vaccine will have to pass through several steps even after FDA approval.

While the viral characteristics of hepatitis B virus (HBV) and HCV differ dramatically, they are often thought of together due to their common target organ and shared modes of transmission. Both have been in the news recently for similar and different reasons. Both have seen major increases in cases fueled by the opioid epidemic in the United States.^{3,11,12}

HCV has also been in the news because of the dramatic progress in antivirals that are available to cure patients of their infection.^{13,14} The impact of HCV on adults has been well described, and the major obstacle remains getting enough adults treated.¹⁵ In their contribution to this issue, Drs. Kapadia and Marks discuss the steps required for HCV management to expand from specialty-based care to primary care providers.¹⁶ They offer these thoughts:

In this article, we propose a simplified HCV management strategy that primary care or other non-HCV specialist providers can use to guide treatment of HCV-infected patients. We highlight a streamlined pre-treatment evaluation, the use of pan-genotypic regimens, limited medical monitoring while on treatment and quality post-treatment care for liver disease and substance use disorders. ...Our objective is that this will provide an instructional framework for primary care providers who wish to begin treating HCV in their own practices.

Readers will appreciate that the strategy these authors describe will be coming to their practices in the very near future.

In sharp contrast to the story in adults, the impact of HCV on infants and children exposed or infected with HCV is less well recognized.^{11,17} In a contribution in collaboration with my colleagues Drs. Espinosa and Barritt, we discuss the burden of HCV in infants and children and the measures required to deal with these problems.¹⁸ Our conclusion distills the message:

With the advent of direct-acting anti-viral therapy for HCV, there is the prospect of eradication of HCV within a generation. In order for this goal to be realized however, all pockets of HCV must be treated and cured. While progress has been made identifying and treating the baby boomer generation, the opiate and injection drug use crisis has brought other demographics into focus, namely children, adolescents, young adults, women of childbearing age and their infected infants.

The review is broken into two parts: the first is a focus on the burden to exposed infants; the second is a discussion of managing and treating infected children and adolescents. I am sure our readers will find a lot of useful information in this review.

While HBV has also experienced an increase fueled by opioid abuse, its ongoing presence as a global driver of liver disease and cancer have received recent attention. HBV is a well-known problem in Asia, with widespread vaccine use to prevent infections, but the burden in Africa is still underrecognized and is overwhelming.^{19,20} More must be done to

Download English Version:

<https://daneshyari.com/en/article/10158402>

Download Persian Version:

<https://daneshyari.com/article/10158402>

[Daneshyari.com](https://daneshyari.com)