Infectious Diseases Society of America meeting, some highlights

October 31 2023, by Beth Gilbert

The annual meeting of the Infectious Diseases Society of America was held this year from Oct. 11 to 15 in Boston and attracted participants from around the world, including scientists, physicians, and other health

care professionals.

The conference featured education courses and comprehensive educational programs that focused on the latest advances in the diagnosis, treatment, and prevention of infectious diseases. The meeting also provided insight into emerging infections, new diagnostics, vaccines, and therapeutic interventions.

In one study, Amy W. Law, Pharm.D., of Pfizer Inc. in New York City, and colleagues found that maternal immunization is an attractive strategy to actively immunize pregnant individuals to passively protect their newborns and young infants during their vulnerable first months of life.

The authors shared the results from a cohort model developed to assess the impact of maternal vaccination with the Pfizer respiratory syncytial virus (RSV) vaccine (RSVpreF) among infants from birth to age one year. In the absence of vaccination, 592,000 cases of RSV-lower respiratory tract disease (LRTD) occur annually among infants, with a corresponding total economic cost of $1.7 billion.

The researchers found that maternal vaccination with RSVpreF between 32 and 36 weeks of gestation has the potential to prevent more than 195,000 cases of RSV-LRTD and reduce associated costs by 45 percent. In addition, the model indicated that 23,519 hospitalizations could be avoided, another $667 million in total direct costs could be averted, and $107 million in total indirect costs could be averted.

"Globally, RSV is the leading viral cause of lower respiratory tract infection, including bronchiolitis, and by extension, the leading cause of infant hospitalization outside of birth hospitalization," Law said. "And now, a maternal RSV vaccine for pregnant people during 32 through 36 weeks gestation, using seasonal administration, is available to prevent RSV lower respiratory tract infection in infants."

Law is an employee of Pfizer, which manufactures the RSVpreF vaccine.

Johanna Kaufmann, Ph.D., of Codagenix in Farmingdale, New York, and colleagues found that CoviLiv, a novel intranasally delivered live-attenuated COVID-19 vaccine, is safe and induces a robust systemic immune response directed against the spike protein, like authorized mRNA vaccines, but also other proteins in the viral genome that are known to mutate less frequently than spike.

The authors described the immune response observed in a first-in-human placebo-controlled dose-escalation trial testing safety and immunogenicity of one or two doses of intranasally delivered CoviLiv, conducted in healthy young adults who had not been previously vaccinated or had known or suspected prior infection with severe acute respiratory syndrome coronavirus 2. The data focused on the highest tested dose group and the primary observation period of 57 days after the first dose.

The researchers showed a benign safety and reactogenicity profile, with frequencies of mild side effects being no higher than those observed in the placebo control group; cardinal symptoms of COVID-19-like fever or loss of taste or smell were not observed after vaccination. In addition, the investigators found that CoviLiv induced an antibody response in serum directed against the spike protein with neutralizing capacity. Eighty percent of participants who received two doses of CoviLiv met response criteria for total antibody and neutralizing antibody induction.

Furthermore, CoviLiv induced a T-cell response directed against multiple proteins that included, but were not limited to, the spike protein encoded in currently authorized COVID-19 vaccines. This was shown using three different complimentary methods, including ELISpot, flow cytometry, and T-cell receptor sequencing, which paint a picture of T-

cell responses induced after vaccination that mimics natural viral infection.

"The data we presented here at IDWeek was a first-in-human trial that by itself does not support licensure of CoviLiv and therefore do not directly impact clinical practice at this time. However, CoviLiv is currently under investigation as a primary COVID-19 vaccination in a large phase 3 trial sponsored by World Health Organization," Kaufmann said.

"Based on the immune response data we presented here, there is reason to believe the vaccine may contribute to hybrid immunity, currently considered the most effective type of immunity against COVID-19, when used as a booster vaccine. We have established safety of CoviLiv in this booster setting in a phase 1 trial and are planning a large phase 2b trial."

Codagenix engineered the CoviLiv vaccine.

In another study, Kristine Du, of the University of Calgary in Alberta. Canada, and colleagues found they were able to detect and quantify influenza and RSV in wastewater, providing real-time data that are complementary to clinical testing and useful to the public, health care practitioners, and policymakers.

The authors performed wastewater surveillance to capture viral trends of influenza A and B as well as RSV and correlate the data to clinically confirmed cases in Calgary, where there is a single municipal provider responsible for waterworks and a publicly funded, sole health provider for the region. The researchers found similar trends and positive correlations for wastewater data compared with laboratory-confirmed cases and test positivity rates.

"Wastewater surveillance captures all—both symptomatic and asymptotic—because it is independent from health care testing bias," Du said. "When we're able to see what's going on in the community, we can take better precautions to prepare for outbreaks or rates of higher transmission of disease."

IDSA: Piperacillin-Tazobactam, Cefepime comparable for suspected infection

(HealthDay)—For hospitalized patients with suspected infection for whom a clinician initiated an order for antipseudomonal antibiotics within 12 hours of presentation to the hospital, the incidence of acute kidney injury or death is comparable for those receiving cefepime and piperacillin-tazobactam, according to a study published online Oct. 14 in the *Journal of the American Medical Association* to coincide with the annual meeting of the Infectious Diseases Society of America (IDWeek), held from Oct. 11 to 15 in Boston.

IDSA: *A. baumannii, C. auris* common for recipients of mechanical ventilation

(HealthDay)—For patients receiving mechanical ventilation, *Acinetobacter baumannii* and *Candida auris* are common, with an increased likelihood of colonization among those in long-term care facilities versus acute care hospitals, according to a study published online Oct. 12 in the *Journal of the American Medical Association* to coincide with the annual meeting of the Infectious Diseases Society of America (IDWeek), held from Oct. 11 to 15 in Boston.

IDSA: Intranasal live-attenuated COVID-19 vaccine induces response

(HealthDay)—Two doses of a novel intranasal live-attenuated COVID-19 vaccine, CoviLiv, induce poly-antigenic immune response, according to a study presented at the annual meeting of the Infectious Diseases Society of America (IDWeek), held from Oct. 11 to 15 in Boston.

IDSA: Maternal RSVpreF vaccine would cut clinical, economic burden

(HealthDay)—Maternal vaccination with a bivalent stabilized prefusion F subunit respiratory syncytial virus (RSV) vaccine is projected to reduce the clinical and economic burden of RSV lower respiratory tract illness in infants, according to a study presented at the annual meeting of the Infectious Diseases Society of America (IDWeek), held from Oct. 11 to 15 in Boston.

IDSA: Wastewater surveillance allows monitoring of viral infections

(HealthDay)—Wastewater surveillance allows monitoring of endemic respiratory viral infections, according to a study presented at the annual meeting of the Infectious Diseases Society of America (IDWeek), held from Oct. 11 to 15 in Boston.

More information: Press Release
Press Release
Press Release
Read Full Text
Read Full Text
Read Full Text
Read Full Text
Read Full Text