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## Research Updates from Around the World

### **ARDS DUE TO COVID-19 LINKED TO CARDIOMYOPATHY**

A National Institutes of Health study has shown severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can cause damage to the heart without directly affecting the heart tissue. Patients with the virus induced acute respiratory distress syndrome (ARDS) have increased cardiac macrophages as well as inflammation-promoting C-C chemokine receptor type 2 positive (CCR2+) macrophages... (Source: *Circulation*. March 20, 2024).

### **DIAGNOSTIC PREDICTORS OF RSV IN CHILDREN WITH ACUTE RESPIRATORY INFECTION**

Factors such as male gender, ear discharge, premature birth, bottle feeding and hyperinflation on chest X-ray are significantly associated with respiratory syncytial virus (RSV) in children aged  $\leq 2$  years with acute respiratory tract infection in a pilot study from Northern India... (Source: *Pediatric Infectious Disease*. Dec. 14, 2023).

### **FIRST GENE THERAPY FOR CHILDREN WITH RARE DEBILITATING NEURON DISEASE**

Atidarsagene autotemcel, marketed as Lenmeldy, has been approved as the first gene therapy for the treatment of children with presymptomatic late infantile, presymptomatic early juvenile or early symptomatic early juvenile metachromatic leukodystrophy. It is a modified stem cell therapy to be administered as a single-dose infusion... (Source: *US FDA*. March 18, 2024).

### **STUDY LINKS JOINT HYPERMOBILITY TO FAILURE OF COMPLETE RECOVERY FROM COVID-19**

Persons with generalized joint hypermobility, also referred to as double jointedness, are 30% more likely to have long COVID, the most common symptom being persistent fatigue.... (Source: *BMJ News*. March 20, 2024).

### **WALKING PERFORMANCE ON A CURVED PATH MAY BE INDICATIVE OF EARLY COGNITIVE DECLINE**

A gait analysis test has linked difficulty in walking a curved path with early cognitive decline among older adults. Curve walking was more useful than straight walking as a cost-effective, noninvasive tool to detect mild cognitive impairment. Individuals with cognitive impairment showed lower average velocity and cadence as well as decreased symmetry and regularity in both step and stride lengths during curve walking... (Source: *Journal of Alzheimer's Disease Reports*. March 15, 2024).

### **FIRST DRUG TREATMENT FOR NASH**

Resmetirom has received FDA approval, as an adjunct to diet and exercise, for the treatment of noncirrhotic nonalcoholic steatohepatitis (NASH) adult patients with moderate to advanced liver scarring. It will be available under the brand name Rezdiffra. It is an oral, once-daily, partial activator of a thyroid hormone receptor in the liver, which reduces accumulation of liver fat... (Source: *US FDA*. March 14, 2024).

### **A HEALTHY LIFESTYLE MAY PREVENT ONSET OF IBS**

Adherence to one healthy lifestyle behavior was associated with 21% lower risk for incident irritable bowel syndrome (IBS) while two healthy lifestyle behaviors reduced the risk by 36% in a study published in *Gut*.

The risk decreased further as the number of healthy lifestyle behaviors increased; 3 to 5 healthy lifestyle behaviors were associated with 42% decrease in IBS... (Source: *Gut*. Feb. 20, 2024).

### **ELINZANETANT: AN EFFECTIVE NEW TREATMENT FOR HOT FLASHES?**

Topline results from the OASIS 3 study show that elinzanetant, administered orally once in a day, significantly reduced the frequency of moderate to severe menopausal vasomotor symptoms compared with placebo. Elinzanetant is a dual neurokinin-1, 3 receptor antagonist (Source: *Healio*. March 20, 2024)

### **FIXED-DOSE COMBINATION THERAPY FOR PULMONARY ARTERIAL HYPERTENSION**

The first single-tablet combination therapy containing macitentan/tadalafil has been approved by the US FDA for the treatment of pulmonary arterial hypertension in treatment-naïve patients or those who are being treated with an endothelin receptor antagonist like macitentan, a phosphodiesterase-5 inhibitor like tadalafil or both... (Source: *Medpage Today*. March 25, 2024).

### **RAPID RELIEF OF SYMPTOMS WITH UPADACITINIB IN CROHN'S DISEASE**

Crohn's disease patients treated with once daily upadacitinib 45 mg experienced rapid resolution of symptoms within 5 days of initiation of treatment.

The clinical remission rate of stool frequency and abdominal pain was 21.2% with upadacitinib versus 8.9% with placebo in moderately to severely active disease. The corresponding clinical response rate was 58.8% and 37.9%, respectively... (Source: *Clin Gastroenterol Hepatol*. March 14, 2024).

### **HISTORY OF SINUSITIS AND RISK OF RHEUMATIC DISEASE**

Patients with sinusitis, chronic and acute are at a higher risk of developing rheumatic diseases such as antiphospholipid syndrome (odds ratio [OR] 7.0), Sjögren's disease (OR 2.4), vasculitis (OR 1.4), and polymyalgia rheumatica (OR 1.4). Acute sinusitis was

also linked to the risk of seronegative rheumatoid arthritis (OR 1.8)... (Source: *RMD Open*. Feb. 22, 2024).

### **FIRST MEDICATION FOR TREATMENT OF CHRONIC RHINOSINUSITIS WITHOUT NASAL POLYPS**

Fluticasone propionate nasal spray can now be also used for treatment of patients, aged  $\geq 18$  years, with chronic rhinosinusitis without nasal polyps after the FDA expanded the indications of fluticasone propionate spray... (Source: *Medpage Today*. March 18, 2024).

### **TOP-DOWN VS. ACCELERATED STEP-UP TREATMENT NEWLY DIAGNOSED CROHN'S DISEASE**

Starting therapy with infliximab + an immunomodulator (top-down approach) in patients with newly diagnosed Crohn's disease resulted in sustained steroid- and surgery-free remission at 48 weeks (79%) compared to step-up approach with standard treatment and steroids (15%)... (Source: *Lancet Gastroenterol Hepatol*. Feb. 22, 2024).

### **A GLOBAL NETWORK FOR CORONAVIRUSES LAUNCHED BY WHO**

In order to ease and coordinate worldwide expertise and capacities for early and accurate detection, surveillance, and assessment of SARS-CoV-2, Middle East respiratory syndrome coronavirus (MERS-CoV) and novel coronaviruses of public health concern, the World Health Organization (WHO) has developed a new coronavirus network of 36 labs from 21 countries called CoViNet... (Source: *WHO*. March 27, 2024).

### **STUDY LINKS EXPOSURE TO COCKROACH ALLERGENS TO URIs IN CHILDREN WITH ASTHMA**

Exposure to indoor pest allergens such as mouse and cockroach allergens increased the risk of upper respiratory infections (URIs) with reduced lung function with OR of 1.58 and 1.79, respectively in children with asthma. However, no such associations were found for cat and dog allergens... (Source: *MedPage Today*. Feb. 29, 2024).

### **TIME-RESTRICTED EATING AND CVD MORTALITY**

According to a study of more than 20,000 American adults, those who followed a time-restricted eating plan and reduced their intake to less than 8 hours per day had a 91% higher risk of dying from cardiovascular disease (CVD) than those who consumed food throughout 12 to 16 hours per day... (Source: *American Heart Association*. March 19, 2024).

## IRREGULAR SLEEPING HOURS LINKED TO SCHOOL-RELATED BEHAVIORAL PROBLEMS

An NIH study has found that adolescents with irregular sleep hours and late bedtime hours perform poorly in academics and have more school-related behavioral problems. Compared to participants with more constant bedtimes, those with more variable bedtimes were more likely to receive a D or lower during the most recent grading period... (Source: NIH. April 2, 2024).

## THE SECOND H5N1 BIRD FLU CASE REPORTED IN THE US

The Centers for Disease Control and Prevention (CDC) has confirmed the second case of the highly pathogenic avian influenza (HPAI) A (H5N1) virus in the United States. The patient had been exposed to dairy cattle and the only symptom was redness in the eyes. The patient is being treated with oseltamivir... (Source: CDC. April 1, 2024)

## THE FIRST ADJUNCTIVE DIGITAL TREATMENT FOR DEPRESSION

Rejoyn, the first prescription digital treatment, can now be used for the adjunctive treatment of patients with major depressive disorder aged  $\geq 22$  years who are on antidepressant medication following FDA clearance. The 6-week treatment using cognitive-emotional training and cognitive behavioral therapy is delivered via a Smartphone app... (Source: CNN. April 2, 2024).

## INITIATING THERAPY WITH TWICE-DAILY PPI YIELDS HIGHER HISTOLOGIC RESPONSE IN EOSINOPHILIC ESOPHAGITIS

Treatment-naïve patients newly diagnosed with eosinophilic esophagitis who received twice-daily moderate (20 mg twice daily), or high (40 mg twice daily) dose of omeprazole showed better histologic response rates compared to those who received the standard once-daily 20 mg dose of the proton pump inhibitor (PPI) with adjusted OR of 6.75 and 12.8, respectively... (Source: Am J Gastroenterol. March 15, 2024).

## CDC CAUTIONS ABOUT INCREASE IN INVASIVE MENINGOCOCCAL DISEASE IN THE US

The CDC has alerted physicians in the US about rising cases of invasive meningococcal disease caused mainly by *Neisseria meningitidis* serogroup Y. Clinical presentation may be with bloodstream infection or septic arthritis and without the classical symptoms of meningitis such as neck stiffness, headache. Unusually, most cases have been reported in the age group 30 to 60 years. "Of 94 patients with known outcomes, 17 (18%) died", notes the CDC... (Source: CDC. March 29, 2024).

## ANOTHER TREATMENT OPTION FOR EXTRAVASCULAR HEMOLYSIS IN PNH PATIENTS

Danicopan, marketed as Voydeya, has been FDA approved to be used along with ravulizumab or eculizumab for patients with paroxysmal nocturnal hemoglobinuria (PNH) to treat extravascular hemolysis. It is first-in-class, oral, Factor D inhibitor... (Source: Medscape. April 2, 2024).

## STUDY LINKS CARDIOMETABOLIC DISORDERS IN ADULTS TO CHILDHOOD AMBLYOPIA

Adults, aged 40 years or older are at 1.16 times higher risk of having obesity, 1.25 times more likely to have hypertension and 1.29 times more likely to have diabetes if they have amblyopia or lazy eye persisting from childhood. They were also more likely to experience myocardial infarction (adjusted hazard ratio [HR] 1.38) and death (aHR 1.36) over a decade... (Source: eClinicalMedicine. March 7, 2024).

## A NEW TREATMENT FOR PULMONARY ARTERIAL HYPERTENSION

Sotatercept, an activin signaling inhibitor biologic, has been approved by the US FDA as the first in class treatment for patients with WHO group 1 pulmonary arterial hypertension. Sotatercept is an activin signaling inhibitor biologic... (Source: AJMC. March 26, 2024).

