News and Views

FDA OKs Targeted Treatment for Rare Duchenne Muscular Dystrophy Mutation

The US Food and Drug Administration (FDA) has given accelerated approval to viltolarsen injection to treat Duchenne muscular dystrophy (DMD) in patients with a confirmed mutation of the DMD gene, amenable to exon 53 skipping.

Viltolarsen becomes the second FDA-approved targeted treatment for patients with such a mutation. Nearly 8% of patients with DMD are reported to carry a mutation that is amenable to exon 53 skipping. The drug was assessed in two clinical studies with 32 patients with genetically confirmed DMD. Increase in dystrophin production was shown in one of the two studies, including 16 DMD patients, with 8 patients given viltolarsen at the recommended dose. Dystrophin levels were shown to increase, on average, from 0.6% of normal at baseline to 5.9% of normal at Week 25… (*FDA*)

Lupus Anticoagulant Linked with COVID Thrombosis

Prothrombotic autoantibodies were shown to be raised in coronavirus disease 2019 (COVID-19) and associated with the development of thrombosis, suggested a small observational study.

Lupus anticoagulant (LA) was found in 44% of COVID-19 patients tested compared to 22% of other patients (30 of 68 vs. 27 of 119, p = 0.002), reported researchers in *JAMA Network Open*. In the COVID-19 group, 63% of the LA-positive patients had documented arterial or venous thrombosis compared with 34% of the LA-negative patients (p = 0.03). C-reactive protein (CRP) was higher with LA positivity but had no link with thrombosis. LA continued to be a significant independent predictor of thrombosis after adjusting for CRP, with an odds ratio (OR) of 4.39… (*Medpage Today*)

Supplement-probiotic Combo may Improve Depressive Symptoms

According to new research, a combination of the supplement S-Adenosyl Methionine (SAMe) and the probiotic bacteria *Lactobacillus plantarum* (*L. plantarum*) HEAL9 may speedily relieve the symptoms of depression and anxiety.

Investigators from Italy randomized 90 patients with subthreshold or mild-to-moderate depression to receive either SAMe + *L. plantarum* HEAL9 or placebo for a duration of 6 weeks. Significant reductions were noted in depression, anxiety and cognitive symptoms as early as 2 weeks following treatment initiation. On comparing the effects of the combination of SAMe and *L. plantarum* HEAL9 with placebo, it was noted that in the treatment group, there were greater reductions in Zung self-rating depression scale (Z-SDS) total score at 2 weeks (–2.78; 95% confidence interval [CI], –5.33 to –0.23, p = 0.0330) and at 6 weeks (–3.55; 95% CI, –6.43 to –0.67; p = 0.0165). The study was published online in *Primary Care Companion CNS Disorders*… (*Medscape*)

NIAID Testing Remdesivir Plus MS Drug for COVID-19

A randomized controlled trial is currently ongoing to test the safety and efficacy of the broad-spectrum antiviral remdesivir in combination with the immunomodulator interferon beta-1a, a drug used to treat multiple sclerosis, for patients with COVID-19.

The Adaptive COVID-19 Treatment Trial 3 (ACTT-3), sponsored by the National Institute of Allergy and Infectious Diseases (NIAID), will enroll over 1,000 adults hospitalized with COVID-19 at up to 100 centers in the United States and abroad.

ACTT-1 noted that among patients hospitalized with COVID-19 who were administered a 10-day course of remdesivir, time to recovery was significantly shorter in comparison with those who received placebo. Preliminary results of ACTT-3 are expected by fall this year… (*Medscape*)

Recent-onset Diabetes, Weight Loss Linked with Cancer in 30-year Study

Individuals with recent-onset diabetes associated with weight loss appeared to have an increased risk for pancreatic cancer and could benefit from surveillance, suggest researchers.

A study published online in *JAMA Oncology* revealed that in a cohort of 1,59,025 individuals followed for a duration of 30 years, those with recent-onset diabetes and weight loss of 1-8 lbs were found to have over threefold risk for pancreatic cancer (hazard ratio [HR]

3.61, 95% CI 2.14-6.10) compared to those without diabetes or weight loss. Those with recent-onset diabetes and weight loss more than 8 lbs had nearly seven times the risk (HR 6.75, 95% CI 4.55-10.0)… (*Medpage Today*)

NAFLD a Predictor of Arrhythmia Recurrence Post-AF Ablation

New research suggests that nonalcoholic fatty liver disease (NAFLD) confers a higher risk for arrhythmia recurrence after atrial fibrillation (AF) ablation.

Over 29 months of follow-up post-ablation, 56% of patients with NAFLD had bouts of arrhythmia, compared with 31% of those without NAFLD, matched for age, sex, body mass index (BMI), ejection fraction within 5% and AF type ($p < 0.0001$). Presence of NAFLD independently predicted arrhythmia recurrence in multivariable analyses adjusted for multiple confounders, including A1c, BMI, and AF type (HR, 3.0; 95% CI 1.94-4.68). Of note, no NAFLD patient in the study who lost at least 10% of their body weight had recurrent arrhythmia, compared to 31% who lost <10%, and 91% who gained weight prior to ablation ($p < .0001$)… (*Medscape*)

Mammography Beginning at 40 Reduces Risk of Breast Cancer Death

Yearly mammography from 40 to 49 years of age was associated with a significant 25% reduction in breast cancer mortality during the first 10 years of follow-up, suggest data from the UK Age Trial.

Investigators calculated that 1,150 women needed to undergo screening in the age group of 40-49 years to prevent one breast cancer death, or about one breast cancer death prevented per 1,000 screened. Several guidelines recommend starting screening for breast cancer at age 50. However, researchers in the present study state that screening prior to age 50 could prevent deaths from breast cancer, with a minimal additional burden of overdiagnosis. The findings are published online August 12 in *Lancet Oncology*… (*Medscape*)

FDA Approves Treatment for NMOSD

The US FDA has granted approval to satralizumab-mwge for the treatment of neuromyelitis optica spectrum disorder (NMOSD) in adults with a particular antibody. This includes patients who are anti-aquaporin-4 or AQP4 antibody-positive. NMOSD, a rare autoimmune disease of the central nervous system, primarily affects the optic nerves and spinal cord. This drug is the third approved treatment for the disorder. The effectiveness and safety of the drug were shown in two 96-week clinical studies. In the first study, treatment with satralizumab-mwge led to a reduction in the number of NMOSD relapses by 74% in anti-AQP4 positive patients compared to treatment with placebo. In the second study, the drug reduced the number of relapses in anti-AQP4 positive patients by 78% compared to placebo… (*FDA*)

Heartburn Drug may Help COVID-19 Patients

More data from observational studies has shown that famotidine, used for the treatment of heartburn, was associated with improved clinical outcomes in COVID-19 patients.

Use of famotidine in 83 patients was linked with a lower risk of in-hospital mortality and a combined outcome of death and intubation, reported researchers. Famotidine was also found to be associated with lower levels of serum markers for severe disease, noted the authors in the *American Journal of Gastroenterology*. In a sample of 878 patients, about 10% were administered famotidine. Use of famotidine was tied to reduced risk of hospital mortality (OR 0.366, 95% CI 0.155-0.862, $p = 0.021$), and a decreased risk of the combined death or intubation endpoint (OR 0.495, 95% CI 0.228-0.965, $p = 0.04$). Intubation occurred in 22% patients in the famotidine group compared to 32% in the nonfamotidine group… (*Medpage Today*)

Oxford Vaccine could be the First Shot for India

NEW DELHI: The Oxford-AstraZeneca vaccine candidate could likely be India's first shot against COVID-19. It may be available for Indians by the end of 2020.

Locally developed candidates are also being watched closely. They are also expected to enter the market with a gap of a few weeks if they are cleared in trials. The Oxford candidate is ahead of the other two local vaccine candidates that are also in the human trials stage. Serum Institute of India has initiated advanced phases of human trial (Phase 2 and 3) in India with nearly 1,600 people above 18 years of age in 17 sites across India. Bharat Biotech's Covaxin, jointly developed with the Indian Council of Medical Research (*ICMR*) and Zydus Cadila's Zycov D are currently in early phases 1 and 2… (*ET Healthworld – TNN*)

COVID-19 Effects on Thyroid Gland

Rates of thyrotoxicosis appear to be significantly higher among patients who are critically ill with COVID-19

compared to critically ill patients who do not have COVID-19, suggests new research.

The study, published online in *The Lancet Diabetes and Endocrinology*, compared critically ill intensive care unit (ICU) patients with COVID-19 with those who did not have COVID-19 or who had milder cases of COVID-19. The study revealed that thyroid disorders do not increase the risk of developing COVID-19. Researchers, however, stated that routine assessment of thyroid function should be done in patients with COVID-19 who need high-intensity care as they often present with thyrotoxicosis due to a form of subacute thyroiditis related to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)… (*Medscape*)

Bariatric Surgery and Fewer BP Medications

Obese patients with hypertension who underwent bariatric surgery experienced a reduction in the medications needed to achieve blood pressure (BP) control, suggests the GATEWAY trial.

In the 100-person study, 73% of those who underwent Roux-en-Y gastric bypass (RYGB) compared to 11% of controls on medical therapy alone could achieve at least a 30% reduction in total number of antihypertensive medications while maintaining BP <140/90 mmHg at 3 years, reported researchers in *Annals of Internal Medicine*. Certain secondary endpoints were also in favor of the bariatric surgery group: Use of antihypertensives: median one vs. three medications; BP control to <140/90 mmHg without medications: 35% vs. 2%; BP control to <130/80 mmHg without medications: 31% vs. 0%... (*Medpage Today*)

Compression Therapy Reduces Cellulitis Risk in Chronic Leg Edema

According to findings published online August 12 in *The New England Journal of Medicine*, among patients with chronic leg edema and recurrent cellulitis, risk for future cellulitis is decreased by 77% by wearing compression stockings or wraps.

Investigators recruited 84 adults with chronic leg edema and recurrent cellulitis and randomized the patients in a 1:1 ratio to receive leg compression therapy and education about preventing cellulitis - compression group with 41 patients, or education only - control group with 43 patients. Additionally, 26 patients were treated with therapist-applied compression bandaging for 3-5 days prior to receiving the stockings. According to the statistical analysis plan, after 23 episodes of cellulitis had occurred, an independent data monitoring committee would review the results of the interim analysis and recommend if the trial needed to be stopped early. At the time of monitoring committee's review, 15% in the compression group and 40% in the control group had experienced a cellulitis episode. The study was stopped early, and patients in the control group were started on compression therapy… (*Medscape*)

Systolic Orthostatic Hypotension Linked with Dementia Risk

Systolic, but not diastolic, orthostatic hypotension has been found to be associated with a 40% rise in the risk for incident dementia in a new study published online in *Neurology*.

The risk is not affected by demographic variables or medical comorbidities, suggests the new research. Data from the prospective Health, Aging and Body Composition (Health ABC) study revealed that variability over time in postural changes in systolic BP was linked with an increased risk for dementia. According to investigators, this could be the first time that such an association has been observed. Variability in postural changes in diastolic BP was shown not to have a link with increased dementia risk… (*Medscape)*

Povidone-iodine to Prevent SARS-CoV-2 Infection

SARS-CoV-2, a novel coronavirus, known to cause COVID-19, surfaced in Wuhan, China towards the end of the year 2019. The World Health Organization (WHO) declared the COVID-19 outbreak as a public health emergency of international concern on January 30, 2020.

While there is lack of an effective treatment strategy for COVID-19, preventive measures are being recommended by various leading organizations, including the WHO. A paper published in *Lancet Infectious Diseases* noted that high viral loads in samples obtained from the upper respiratory tract pointed to a high risk of transmission during the early days following the onset of symptoms.[1] It appears that asymptomatic patients can also transmit the infection.[2] Diminishing the viral load thus seems to be a potential strategy to check the transmission of this viral illness.

Povidone-iodine (PVP-I) has long been in use as a broad-spectrum microbicidal agent which can cause inactivation of bacteria, fungi, protozoans and viruses. It has potential virucidal activity and has even been shown to have the highest virucidal activity among several antiseptics, including chlorhexidine gluconate

(CHG), benzalkonium chloride (BAC), benzethonium chloride (BEC) and alkyldiaminoethyl-glycine hydrochloride.[2] PVP-I gargle, has been shown *in vitro*, to inactivate adenovirus, mumps, rotavirus, poliovirus (types 1 and 3), coxsackievirus, rhinovirus, herpes simplex virus, rubella, measles, influenza and human immunodeficiency virus (HIV).

This antiseptic formulation is therefore a broad-spectrum virucidal agent that inactivates both enveloped and nonenveloped viruses. The agent is also effective against Middle East respiratory syndrome coronavirus (MERS-CoV) and SARS-CoV.[2]

PVP-I has been shown to have virucidal activity against SARS-CoV-2 as well. PVP-I products, including gargle and mouth wash, were shown by Anderson et al,[3] to attain ≥ 99.99% virucidal activity against the virus.

The agent was reported to have a rapid virucidal activity against this virus. Working out ways to minimize the viral titers in saliva and nasal mucosa from COVID-19 patients could possibly curb the transmission of the disease.[4] PVP-I could be used to prevent the spread of virus-containing droplets from the nose and mouth of an infected person.

PVP-I could reduce the viral load in the nasal and oral mucosa of COVID-19 patients and limit the risk of transmission.[4] Use of PVP-I products for oral decontamination, along with following distancing measures, frequent handwashing and use of masks could go a long way in preventing the transmission of the SARS-CoV-2 virus.

REFERENCES

1. Lescure FX, Bouadma L, Nguyen D, Parisey M, Wicky PH, Behillil S, et al. Clinical and virological data of the first cases of COVID-19 in Europe: a case series. Lancet Infect Dis. 2020;20(6):697-706.
2. Mendoza L. Prevention of Covid-19 Infection with povidone-iodine. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3589404.
3. Anderson DE, Sivalingam V, Kang AEZ, Ananthanarayanan A, Arumugam H, TM Jenkins, et al. Povidone-iodine demonstrates rapid in vitro virucidal activity against SARS-CoV-2, the virus causing COVID-19 disease. Infect Dis Ther. 2020;9(3):669-75.
4. Kirk-Bayley J, Sunkaraneni VS, Challacombe SJ. The use of povidone iodine nasal spray and mouthwash during the current COVID-19 pandemic may reduce cross infection and protect healthcare workers. SSRN. 2020. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3563092.

Pollution Tied to First Time Asthma in Children: Study

The more children are exposed to pollution, the greater the risk they have of developing their first case of asthma, suggested a large study published in the *BMJ*. The study has added to the increasing evidence base that exposure to air pollution affects the development of chronic breathing problems. Investigators assessed data from around 7,80,000 Danish children born between 1997 and 2014, and followed up with the records to determine if any of the children developed persistent wheezing and asthma between 1 and 15 years of age. Children whose parents had asthma had a higher likelihood of having asthma, as did children whose mothers smoked during pregnancy.

After adjusting for these factors, when the children were exposed to higher levels of small particle pollution and nitrate pollution, they were found to be more likely to develop asthma and persistent wheezing compared to children who were not exposed… (*CNN*)

Robotic Surgery Improves OS in Early Oropharyngeal Cancer

A retrospective study, published in *JAMA Oncology*, has revealed that transoral robotic surgery (TORS) could improve surgical outcomes and survival in comparison with nonrobotic surgery in patients with early-stage oropharyngeal cancer.

The study included 9,745 patients from the National Cancer Database (NCDB). About 27.6% of these patients underwent TORS. The robotic procedure was linked with lower rates of positive surgical margins, decreased odds of receiving adjuvant chemoradiotherapy and improved overall survival (OS). Additionally, among the 4,071 patients with known human papillomavirus (HPV) status, robotic surgery was found to be associated with improved OS… (*Medpage Today*)

Influenza Vaccination Critical During Pandemic: CDC

The Centers for Disease Control and Prevention (CDC) has urged all people who do not have any contraindications to receive the influenza vaccine for the 2020-2021 influenza season. The agency says that it is even more critical to receive the vaccination during the COVID-19 pandemic compared to the normal years.

Authors of recommendations, published August 20, in *Morbidity and Mortality Weekly Report*, state that influenza vaccination of persons aged 6 months and

above to reduce the prevalence of influenza illness will have a role in decreasing the symptoms that might be confused with those of COVID-19.

The CDC Advisory Committee on Immunization Practices (ACIP) recommends routine yearly influenza vaccination for all those aged 6 months and older who do not have any contraindications to the vaccine… (*Medscape*)

Older Age and Male Sex Increase Cancer Risk in Lupus

According to a large multicenter cohort study, among patients with systemic lupus erythematosus (SLE), cancer risks are associated with older age at diagnosis and male sex, while lung cancer specifically is associated with smoking.

A multivariable analysis revealed that the HR for any type of cancer among patients included in the Systemic Lupus International Collaborating Clinics Inception Cohort was 1.05 (95% CI 1.03-1.06) for greater age at baseline. The risk for women was lower, with a HR of 0.47 (95% CI 0.26-0.85). History of smoking >15 cigarettes/day was tied to an almost sevenfold increased risk for lung cancer (HR 6.64, 95% CI 1.43-30.9). The findings were published in *Arthritis Care & Research*… (*Medpage Today*)

WHO Cautious on COVID-19 Plasma, US Issues Emergency Use Authorization

The WHO is wary about supporting the use of recovered COVID-19 patients' plasma to treat those who are ill.

The agency has stated that the evidence that convalescent plasma works is of low quality. The US FDA has authorized the use of convalescent plasma. WHO chief scientist, Soumya Swaminathan, said that that there are only a few clinical trials of convalescent plasma that have produced results, and the evidence available is not convincing enough to support the use of plasma therapy beyond an experimental treatment. She added that though some trials have showed some benefit, they are small and the data has been inconclusive thus far… (*ET Healthworld – Reuters*)

First Brain Stimulation Device Cleared to Help Smokers Quit

The US FDA has granted marketing approval for the BrainsWay deep transcranial magnetic stimulation (TMS) system to assist adult smokers quit tobacco.

The system has already received FDA approval as a treatment for patients with obsessive-compulsive disorder and major depressive disorder.

This deep TMS system has H4-coil and targets addiction-related brain circuits. A prospective, double-blind, randomized, sham-controlled, multicenter study included 262 adults with a history of smoking an average of over 26 years and had multiple failed attempts to quit. In the full intention-to-treat population (262 subjects), the 4-week continuous quit rate (CQR, the primary endpoint) was 17.1% in the active deep TMS group compared to 7.9% in the sham TMS group ($p = 0.0238$)… (*Medscape*)

Coffee Intake During Pregnancy Tied to Negative Birth Outcomes

Even at moderate levels, coffee intake during pregnancy is associated with negative birth outcomes, suggests a research based on a literature review.

According to the report published in *BMJ Evidence-Based Medicine*, coffee consumption during pregnancy was found to be linked with a heightened risk of adverse pregnancy outcomes including miscarriage, stillbirth and low birthweight or small for gestational age infants. At caffeine doses of 200 mg/day, the estimated risk increase ranged from 14% to 38% for these outcomes relative to no caffeine consumption. Maternal coffee intake was also found to be associated with negative outcomes later in childhood, such as acute leukemia and obesity… (*Medpage Today*)

BP Drugs that may Protect Against Depression

A Danish population-based study has outlined a short list of antihypertensive medications that may be associated with decreased risk of depression.

Significantly lower risk of depression incidence was noted in population-based registries for the ACE inhibitors enalapril and ramipril; calcium channel blockers amlodipine, verapamil and verapamil combinations and the beta-blockers propranolol, atenolol, bisoprolol and carvedilol. Diuretics were found to have no link with depression risk.

Investigators also noted that individuals without any antihypertensive prescriptions (possibly those without high BP) had the lowest depression risk, thus indicating that patients with hypertension and cardiovascular and cerebrovascular diseases have an increased risk of developing depression. The findings are published in the September 2020 issue of *Hypertension*… (*Medpage Today*)