News and Views

Treating Young Adults with Raised LDL may be Cost-effective

Treating raised low-density lipoprotein cholesterol (LDL-C) levels in adults below 40 years of age with statins appears to be highly cost-effective in men, and intermediately cost-effective among women, suggested a new study published online in the *Journal of the American College of Cardiology*.

A simulated model based on data from the US National Health and Nutrition Examination Survey (NHANES) revealed that decreasing lipid levels with statins or lifestyle interventions in this age group would result in prevention or reduction of the risk of atherosclerotic cardiovascular disease (ASCVD) and help improve quality of life in later years.

Incremental cost-effectiveness ratios (ICERs) were found to be $31,000/QALY for statin treatment in young adult men having LDL-C ≥130 mg/dL, and $106,000/QALY for statin treatment in young women having LDL-C level of ≥130 mg/dL… (*Source: Medscape*)

Early Biologic Therapy Yields Better Results in Juvenile Idiopathic Arthritis

For patients with polyarticular juvenile idiopathic arthritis (JIA), use of early combination therapy resulted in better outcomes compared to the conventional step-up approach or initial biologic monotherapy, noted a prospective observational study presented at the American College of Rheumatology (ACR) virtual meeting.

At 24 months, 59.4% of the patients who had received early combination therapy with a conventional disease-modifying antirheumatic drug (DMARD) and a biologic had attained clinically inactive disease (CID) and were not on glucocorticoids.

On the other hand, 48% of the patients who had started treatment with biologic monotherapy achieved CID and were off glucocorticoids at 24 months, but only 40.1% of the patients who initially received step-up therapy starting with a conventional DMARD followed by addition of a biologic after 3 or more months if required… (*Source: Medpage Today*)

Breakthrough COVID-19 Increases Risk of Health Problems and Death

While coronavirus disease 2019 (COVID-19) has been reported to be less severe in vaccinated patients, breakthrough infections are not benign, suggests a large study.

Investigators assessed data aggregated by the US Veterans Affairs Administration from 16,035 survivors of breakthrough infections, 48,536 unvaccinated COVID survivors and around 3.6 million uninfected individuals. At 6 months following the infection, after accounting for the risk factors, individuals who had breakthrough infections were found to have lower rates of death and long-term health problems compared to unvaccinated COVID-19 patients. However, in comparison with people who never had COVID-19, those with breakthrough infections were shown to have a 53% increased risk of death and a 59% higher risk of having at least one new health problem, especially those affecting the lungs and other organs.

Despite the fact that breakthrough infections did not need hospital admission, the increased risks of death and long-term effects were not insignificant, noted the investigators. They concluded that breakthrough COVID-19 will lead to a considerable overall burden of death and disease… (*Source: Reuters*)

Coronavirus Persists Longer in Public Areas, Washrooms with Dead Zones: Study

Researchers from IIT-Bombay have noted that infectious aerosols can persist in the air up to 10 times longer in the so-called dead zones in enclosed spaces.

The dead zones include areas above washbasins in washrooms, behind the doors, in the corners and around the furniture. Slow air circulation in these zones can result in COVID infection transmission, stated the report titled "Effects of Recirculation Zones on the Ventilation of a Public Washroom".

The researchers noted that the odds of infection are increased significantly in these dead zones as infectious aerosols linger up to 10 times longer in these spaces, in comparison with other well-ventilated areas in a room. They recommended the use of additional fans or ducts facing the dead zones in order to check

the spread of infection. They also noted that keeping a washroom door partially open facing the basin could also help… (*Source: ET Healthworld*)

Severe Glucose Swings Common in Dialysis Patients

According to a new retrospective study, severe hypoglycemic and hyperglycemic crises requiring immediate care are highly common in patients with diabetes and end-stage kidney disease (ESKD) who are on dialysis, and are far higher than those reported in nondialysis patients with chronic kidney disease (CKD).

Investigators made use of data from the United States Renal Data System (USRDS) registry and identified 5,21,789 patients with diabetes and ESKD who had at least 3 months of dialysis before the index date and established diabetes as of the index date. Patients were enrolled in the registry from 2013 to 2017. The median duration of dialysis at cohort entry was 3 months and patients were observed for a median of about 2 years. Around 7.9% patients experienced at least one hypoglycemic crisis with an overall incidence rate of 53.64 per 1,000 person-years.

A lesser number of patients experienced at least one hyperglycemic crisis from 2013 through 2017 at a rate of 1.8% overall, with an adjusted incidence rate of 18.2 events per 1,000 person-years… (*Source: Medscape*)

Screen Patients with Long COVID GI Symptoms for Mental Health Problems

A survey has shown that long COVID gastrointestinal (GI) symptoms are associated with mental health symptoms and a more severe illness doubled the risk of post-COVID GI symptoms.

The survey covered 749 patients who had tested positive for COVID-19 at the Columbia University Irving Medical Center from April to November 2020 and had recovered from the infection. The minimum follow-up period was for 6 months for the eligible participants. Women comprised 67% of the surveyed population. Fifteen percent of the participants were admitted to hospital and 1.7% required mechanical ventilation.

Out of the 749 patients evaluated, 220 (29%) reported COVID-related GI symptoms. The most commonly reported symptom was heartburn (16%), followed by constipation (11%), diarrhea (9.6%) and abdominal pain (9.4%); 7% reported nausea or vomiting. Pre-COVID mental health symptoms were reported by 39 patients (5%), while post-COVID mental health symptoms, most commonly anxiety and sadness, were reported by as many as 280 patients (37%).

Analysis of data further showed that the probability of having GI symptoms was higher in those patients who had pre-COVID mental health symptoms; 49% vs. 28%, respectively. And, those patients who developed mental health symptoms after COVID were more likely to also have GI symptoms post-COVID; 55% with sadness or anxiety vs. 14% of those who had no mental health symptoms. Patients who had severe COVID-19 and required hospitalization were more prone to have post-COVID GI symptoms compared to those who were not hospitalized; 51% vs. 26%, respectively.

Thirteen out of the 33 patients with abdominal pain met the Rome IV criteria for irritable bowel syndrome (IBS) after reporting weekly pain and change in stool form or frequency for a minimum of 6 months.

Patients with mental health symptoms either before or after COVID-19 were more likely to report post-COVID GI symptoms. Increasing severity of GI symptoms was associated with higher risk for new anxiety or sadness.

These survey findings, published in the journal *Gastroenterology*, highlight the strong association between mental health symptoms and post-COVID GI symptoms; 11% patients surveyed described their GI symptom as the *"most bothersome current symptom"*.

Feeling anxious or sad may aggravate functional GI disorders such as IBS, the symptoms of which in turn may add to the anxiety or sadness creating a vicious cycle. Hence, physicians treating GI symptoms in patients with long COVID should also screen them for anxiety and other mental health symptoms. (*Source: Gastroenterology. 2021 Oct 30:S0016-5085(21)03712-4.*)

Pandemic Led to 16% Increase in Deaths in OECD Countries: Report

The COVID-19 pandemic led to an increase of 16% in expected deaths among the 38 members of the Organization for Economic Cooperation and Development (OECD), and hit the overall life expectancy in 24 of the 30 members, stated the organization.

Life expectancy was found to decrease the most in Spain and the United States, with the United States losing 1.6 years of life per capita on average during the year and a half of the pandemic. Spain lost 1.5 years, noted the organization. The report stated that Japan, Switzerland and Spain lead a group of 27 OECD countries where life expectancy at birth

exceeded 80 years in 2019. Another group, which includes the United States and several central and eastern European countries, had a life expectancy of 77 to 80 years… (*Source: CNN*)

Sleep Apnea Associated with Severe COVID-19

The risk of severe COVID-19 is greater in individuals with obstructive sleep apnea and other breathing problems that are known to result in a fall in oxygen levels during sleep, noted researchers.

In a study published in *JAMA Network Open*, investigators tracked 5,402 adult patients with these problems and noted that around one-third of them tested positive for COVID-19. Although the likelihood of being infected did not increase with the severity of their problems, but those who had higher scores on the apnea-hypopnia index appeared to have higher odds of requiring hospitalization or dying from COVID-19, noted researchers.

It is not known whether treatments that improve sleep apnea, such as CPAP machines, would reduce the risk of severe COVID-19, stated Cinthya Pena Orbea and Reena Mehra of the Cleveland Clinic… (*Source: Reuters*)

Measles an Renewed Global Threat, Millions of Babies Missed Vaccines During Pandemic: CDC

The world faces a renewed threat of measles as 22 million babies missed their vaccinations due to disruptions caused by the COVID-19 pandemic, cautioned the US Centers for Disease Control and Prevention (CDC).

The CDC stated that the reported measles cases declined in 2020 after a resurgence from 2017 to 2019. However, the agency mentioned that large and disruptive measles outbreaks in 2020 indicate that measles transmission was underreported. The agency said that more than 22 million infants missed their first vaccine dose, which is 3 million higher than in 2019 and the highest annual increase in more than 2 decades.

Dr Kate O'Brien, Director of the Dept. of Immunization, Vaccines and Biologicals at the World Health Organization (WHO), said that though the reported cases of measles declined in 2020, this could possibly be the calm before the storm, adding that the risk of outbreaks continues to grow… (*Source: CNN*)

Novel Urine Biomarker for Prostate Cancer Indicates Amount of Aggressive Tumor

A novel urine biomarker for prostate cancer can detect the presence of aggressive tumors and can also signal the amount of these tumors, suggests new research published online in *Life*.

In a study of biopsy and prostatectomy samples, the multigene Prostate Urine Risk-4 (PUR-4) signature was found to have a strong correlation with the presence and amount of Gleason pattern 4 tumors, but not with tumors of less aggressive histology. Considering that more cases of Gleason pattern 4 tumors are linked with disease progression in patients at intermediate risk, the study indicated that PUR can identify men at intermediate risk who may need treatment and those who may be managed conservatively with surveillance.

Based on biopsy samples from 215 men with prostate cancer, it was noted that PUR-4 signature values had a significant correlation with increasing Gleason grade… (*Source: Medscape*)

Add Dairy Foods in Diet to Reduce Risk of Falls and Fractures

Increasing intake of dietary calcium and protein in older adults who have adequate vitamin D levels reduces the risk of falls and fragility fractures, according to a new *BMJ* study from Australia.

The randomized controlled trial involved 7,195 institutionalized, but ambulatory older adults, with mean age 86 years. Women participants were 4,920 (68%) in number. They had sufficient vitamin D levels, but their intake of calcium and protein was lower than 1,300 mg/day and 1 g protein/kg body weight, respectively. Residents of 30 facilities were given diets with extra milk, yogurt, cheese and calcium supplements amounting to 1,142 mg of calcium/day and 1.1 g/kg body weight of protein (69 g/day). Residents of the other 30 facilities, which acted as the control group, continued with their regular diets 700 mg/day calcium and 0.9 g of protein/kg body weight (58 g/day).

After 2 years, there were 324 fractures in total (121 in the study group vs. 203 in the control group) and 4,302 falls; 1,974 deaths occurred during the study. Addition of calcium and protein in the diet reduced the risk of all fractures by 33% (121 vs. 203), and falls by 11% (1879 vs. 2423). The risk of hip fractures reduced by 46% with fewer hip fractures occurring in the intervention group compared to the control group; 42 vs. 93, respectively. The risk reduction in hip fractures became evident after 3 months of the dietary intervention. However, there was no difference in all-cause mortality between the two groups (900 vs. 1,074). This study highlights the importance of educating older adults about adequate nutrition, particularly

calcium and proteins by using readily available dairy foods, to reduce their risk of falls and fractures as complementary to antiosteoporotic drugs. (*Source: BMJ. 2021;375:n2364.*)

Problem of Diabetes Making Africa More Vulnerable to COVID Deaths: WHO

The WHO has stated that death rates from COVID-19 are much higher in diabetes patients in Africa, where the number of people with diabetes is increasing fast. An analysis of data from 13 countries in Africa noted that there was a case fatality rate of 10.2% in COVID-19 patients with diabetes, in comparison with 2.5% for COVID-19 patients overall. WHO Regional Director for Africa, Matshidiso Moeti, said that COVID is giving a clear message - fighting the diabetes epidemic in Africa is as significant as the fight against COVID-19. As per the health agency, about 70% of people with diabetes in Africa were not aware that they had the disease.

The International Diabetes Federation estimates that the number of people with diabetes in Africa may reach 55 million by 2045, up from 24 million this year… (*Source: Reuters*)

Multivitamins Associated with Slowed Brain Aging

According to new research presented at the 14th Clinical Trials on Alzheimer's Disease (CTAD) conference, a daily multivitamin taken for 3 years is tied to a 60% slowing of cognitive aging. Additionally, the effects were particularly marked in patients with cardiovascular disease (CVD). The COSMOS-Mind study also looked at the effect of cocoa flavanols but found no beneficial effect. This is a substudy of a large parent trial that compared the effects of cocoa extract (500 mg/day cocoa flavanols) and a multivitamin-mineral (MVM) with placebo on cardiovascular and cancer outcomes in over 21,000 older participants.

The COSMOS-Mind study included 2,262 adults, 65 years of age and above, without dementia. The participants underwent cognitive testing at baseline and every year for 3 years. While there was no effect of cocoa on global cognitive function, there was a positive effect of multivitamins for the active group compared to placebo, peaking at 2 years… (*Source: Medscape*)

Fortified Baby Formulas Provide No Long-term Cognitive Benefit

Infants raised on fortified formula milk were found to have no added advantage in academic performance as adolescents, noted researchers in England.

There were no significant differences in the UK math exam scores in students at age 16 who had participated in clinical trials comparing formulas fortified with long-chain polyunsaturated fatty acids (LC-PUFAs), iron or nutrients, with standard formulas, as infants. Instead, there was a slight reduction in academic performance in children at 11 years of age who were randomized to receive LC-PUFA-supplemented formula, noted the study.

The study pooled data from seven randomized clinical trials conducted between 1993 and 2001. The findings are published in the *BMJ*… (*Source: Medpage Today*)

Specific BP-lowering Medications Prevent Onset of New Diabetes

Lowering blood pressure (BP) can prevent the onset of diabetes; however, the effects may vary according to the antihypertensive drug class, suggests a meta-analysis.

Angiotensin-converting enzyme (ACE) inhibitors and angiotensin II receptor blockers (ARB) have the strongest association with prevention of diabetes onset, while β-blockers and thiazide diuretics appear to be tied to an increased risk of new-onset diabetes, noted the analysis published in *The Lancet*. It suggests that besides the well-known beneficial effects of reducing cardiovascular events, BP-lowering can also help prevent diabetes, noted Milad Nazarzadeh and colleagues with the Blood Pressure Lowering Treatment Trialists' Collaboration. The varying effects of the drug classes help decision-making for antihypertensive drug choice based on an individual's risk profile, noted investigators… (*Medscape*)