Opinion

Tom Nolan’s research reviews—3 November 2022

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Taking the pressure off after a stroke

It seems that aggressive—sorry “intensive”—blood pressure targets in the hours after endovascular thrombectomy for acute ischaemic stroke may not be such a good idea. An open-label study across 44 hospitals in China randomised 821 patients with raised systolic blood pressure (>140 mm Hg) after successful reperfusion for acute ischaemic stroke. They were allocated to either a target blood pressure of <120 mm Hg to be achieved within an hour and sustained for 72 hours or a more relaxed target of 140-180 mm Hg. The study was stopped early when an interim review of outcomes found that those receiving the intensive blood pressure management had more early neurological deterioration (odds ratio 1.53 (95% confidence interval 1.18 to 1.97)) and major disability at 90 days (OR 2.07 (1.47 to 2.93)).

Lancet doi:10.1016/S0140-6736(22)01882-7

Agonising over the next new drug to treat diabetes and obesity

The 2022 prize for the drug name that sounds most like a national insurance number goes to LY3437943, which is hoping to become another new treatment for diabetes and obesity. I guess pharma companies don’t bother with names for most drugs until they get past phase 1, at which point the marketing team can call a meeting to come up with some new tongue twisting but vaguely familiar and upbeat sounding name. “Agonising” over a name for LY3437943 may be appropriate though, since it’s designed as an agonist to not one, not two, but three receptors: glucagon, glucose-dependent insulinoctpeptide (GIP), and glucagon-like peptide 1 (GLP-1). This phase 1 trial in the Lancet found that LY3437943 had an “acceptable safety profile” and is suitable for once weekly dosing, meaning phase 2 trials can come next.

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Mendelian randomisation gets a dose of vitamin D

It’s time for mendelian randomisation to get some time in the sun, as it weighs into the vitamin D debate. There are mountains of observational evidence linking low vitamin D levels to all sorts of ill health, but a glaring lack of evidence that taking vitamin D supplements meaningfully improves most outcomes. Sceptics often go further and suggest reverse causality may be at play: that low vitamin D levels may be a marker of poor health rather than the cause of it. Results from this study, which uses non-linear mendelian randomisation methods (which I couldn’t explain even if I had the space to do so) on data for 307 601 individuals from UK Biobank supports a causal relationship between vitamin D deficiency and mortality, but also concludes that although remediation of vitamin D deficiency is essential, supplementation is unlikely to have notable benefits for preventing death when given in surplus to the nutritional requirement.

Ann Intern Med doi:10.7326/M21-3324

Racial differences in bystander CPR in the United States

A review of 110 054 adults in the United States who had a witnessed out-of-hospital cardiac arrest has found that black or Hispanic people were less likely than white people to receive bystander cardiopulmonary resuscitation (CPR) regardless of whether it occurred in the home or in a public place. Why? The article discusses several possible factors, including less investment and training in CPR in black and Hispanic communities, differences in language spoken between the ambulance dispatcher and bystander, and implicit and explicit biases among bystanders in public places. The study also found room for improvement in the rates of bystander CPR overall: occurring in under half of cardiac arrests in the home and around 6 in 10 in public places.


How much oxygen after return of spontaneous circulation?

How much might the early management of those who have an out-of-hospital cardiac arrest and achieve a return of spontaneous circulation (ROSC)—hopefully after some bystander CPR—make a difference to survival? Based on previous studies showing that high flow oxygen after ROSC may cause hyperoxiaemia and reperfusion injury, researchers in Australia carried out a randomised controlled trial to see if having a lower target oxygen saturation after out-of-hospital arrest and ROSC might lead to improved survival rates. Of the 214 patients in the intervention group (who had a reduced oxygen protocol, titrating peripheral oxygen saturation (SpO2) to 90-94%), 82 (38%) survived to hospital discharge compared with 101 (48%) of the 211 in the standard care group (who received high flow oxygen to maintain an SpO2 of 98-100%).

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