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Mortality of anabolic steroids users and other research

Tom Nolan reviews this week's researchTom Nolan *clinical editor; sessional GP, Surrey*

Risks of anabolic steroids

The new series of *Gladiators* is nearly over, although I didn't get past the first episode (I've added it to my long list of things that aren't as appealing in your 40s as they were as a teenager). The original television series from the 1990s was marred by drug controversy, and one of the stars of the new series has admitted to taking anabolic steroids in the past. With a generation of children wondering how to get bodies that look like a Gladiator's, an observational study that found an increase in mortality among males sanctioned for androgenic anabolic steroid (AAS) use seems topical. A total of 1189 males who tested positive for AAS from drugs testing at fitness centres in Denmark were each matched to 50 people of the same age. Of the 1189, 33 died over the median 11 year follow-up period—a death rate nearly three times higher than that of the controls (hazard ratio 2.81 (95% confidence interval 1.98 to 3.99)).

JAMA doi:10.1001/jama.2024.3180

Calcium, vitamin D, and all-cause mortality

Calcium and vitamin D supplements are often top of the deprescribing list when considering medications of questionable value that could be stopped. A randomised trial recruited 36 282 postmenopausal women in the US to take either calcium and vitamin D supplements or a placebo. After an impressively long median follow-up of 22.3 years, the hazard ratio for all-cause mortality was exactly 1.00 (95% confidence interval 0.97 to 1.03). Interestingly, cancer mortality was 7% lower in the calcium and vitamin D group, but cardiovascular disease mortality was 6% higher. Although there's plenty of observational data linking low vitamin D levels to various poor outcomes, evidence of benefits of vitamin D supplementation for meaningful outcomes in randomised control trials remains harder to come by.

Ann Intern Med doi:10.7326/M23-2598

Fighting FIT 1: cell-free DNA blood tests

It's colorectal cancer screening week (again) in the *New England Journal of Medicine*. First up is a blood test, but not just any blood test—it's a cell-free DNA blood test. In a test population eligible for colorectal cancer screening, it missed 16.9% of people with colorectal cancer (sensitivity 83.1%), and 10.4% of those with a positive blood test did not have either colorectal cancer or an advanced neoplasia (specificity 89.6%). With a sensitivity and specificity that compete with those for faecal immunochemical tests (FIT), will blood screening take over and consign faecal tests (depositing your stool in an old takeaway box and scraping its surface with a swab) to history?

N Engl J Med doi:10.1056/NEJMoa2304714

Fighting FIT 2: pushing the envelope

It's sad to think that most post boxes these days probably have more samples of faeces being sent for FIT screening passing through their proud red rectangular mouths than actual letters. Although blood tests may be on the horizon, improved stool testing techniques may keep stool testing's nose in front—and the Royal Mail in business. A new stool test—and not just any stool test, but a next generation multitarget stool DNA test—was tested in over 20 000 people at moderate risk of colorectal cancer and found to have a sensitivity of 93.9% (95% CI 87.1 to 97.7) for colorectal cancer and specificity for advanced neoplasia of 90.6% (90.1 to 91.0). This study directly compared the new test with standard FIT, which had a lower sensitivity but higher specificity—suggesting that the new test would identify more people with cancer but also lead to more colonoscopies than FIT screening.

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ADHD and deaths of despair

In people with attention deficit hyperactivity disorder (ADHD), does medication help to lower rates of “deaths of despair” (the term for deaths from alcohol, drug use, and suicide)? An observational study in Sweden sought to determine differences in mortality in people diagnosed with ADHD who are prescribed ADHD medication and those who aren't. They found that those prescribed ADHD medication had a lower risk of unnatural death—from suicide, accidental injuries, or accidental poisoning—than those who didn't. The lower risk after two years (25.9 v 33.3 per 10 000 individuals, risk difference -7.4 per 10 000 individuals (95% CI -14.2 to -0.5)) was mostly driven by fewer accidental poisonings in those taking ADHD medication. Whether this lower risk is due to ADHD medication isn't certain, though: confounding factors may be at play, or being prescribed ADHD medication may be a proxy for better overall support.

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