



Cite this as: *BMJ* 2023;381:p1333
<http://dx.doi.org/10.1136/bmj.p1333>
 Published: 15 June 2023

Ann Robinson's research reviews—15 June 2023

Ann Robinson *NHS GP and health writer and broadcaster*

Plugging the gap in COPD

Imaging can shed light, but also cast a shadow of doubt by identifying abnormalities of uncertain importance. A case in point are mucus plugs identified on computed tomography (CT) scans, which are common in patients with chronic obstructive pulmonary disease (COPD) and seem to correlate with lung function and quality of life measures. The mucus plugs can also cause local hypoxia, infections, and respiratory failure, but do they correlate with increased mortality?

This observational study found that the CT finding of mucus plugs occluding medium to large sized airways in a wide range of COPD severity was associated with increased all-cause mortality compared with matched patients with no mucus plugs, even after adjusting for possible confounders such as sex, ethnicity, weight, smoking history, and concurrent respiratory and cardiovascular conditions (mortality of 54.1% v 34% over median follow-up of 9.5 years). The mucus plugs may prove to be a target for treatment with biologics, which have improved outcomes in asthma but haven't been fully tested in COPD.

JAMA doi:10.1001/jama.2023.2065

Flushed with failure

Menopausal hot flushes are the bane of many women's lives. The two available options are to put up with them or take hormone replacement therapy (HRT), but not everyone wants to or can use HRT. In this small trial 141 perimenopausal and postmenopausal women with at least seven hot flushes a day were randomised to continuous nitroglycerin transdermal patch or placebo for three months. The rationale is that physiological studies have shown that nitric oxide plays a role in mediating the vasodilation of hot flushes, and that inducing nitrate tolerance in blood vessels by means of a patch might reduce the frequency and severity of the troublesome flushes. Unfortunately it didn't work. The frequency of flushes reduced by over 40% over 12 weeks in both nitroglycerin and placebo groups, but there were no sustained improvements in the frequency or severity of flushes compared with placebo. Headaches were a common side effect of nitroglycerin, which meant that nearly 20% of users discontinued the patches early. It's back to the drawing board.

JAMA Intern Med doi:10.1001/jamaintern-med.2023.1977

Biliary tract cancers; a glimmer of hope

The incidence of biliary tract (intrahepatic, extrahepatic, and gallbladder) cancers is rising, but the prognosis remains poor. Standard care has been

chemotherapy with gemcitabine and cisplatin, and these cancers tend to be unresponsive to immune checkpoint inhibitors such as pembrolizumab because most have an immune-suppressed microenvironment. However, this study found that adding pembrolizumab to gemcitabine and cisplatin significantly improved two year survival compared with gemcitabine and cisplatin alone (25% v 18%). These drugs are no picnic; 99-100% of the patients had some kind of adverse event, and 6-9% died as a result, though there was no significant difference between the two groups.

Lancet doi:10.1016/S0140-6736(23)00727-4

Gestational diabetes: how to manage

Received wisdom is that the earlier we identify and treat gestational diabetes, the better for all concerned. But levels of glucose in the blood vary as the first trimester progresses, so it's hard to pin down reliable criteria for diagnosis. Continuous glucose monitoring between 10 and 14 weeks' gestation for those most at risk of gestational diabetes may be the answer.

This interesting study of pregnant women in the first half of pregnancy with risk factors for hyperglycaemia and a diagnosis of gestational diabetes found that starting treatment sooner rather than later was associated with a 1.2-10% reduction in adverse neonatal events such as respiratory distress. Rates of stillbirth or neonatal death were low and similar in both groups, and there was no significant difference in maternal pregnancy-related hypertension. A third of the women who were told that they had early gestational diabetes according to WHO criteria, didn't have it on repeat oral glucose tolerance testing at 24-28 weeks. A diagnosis of gestational diabetes adds to a pregnant woman's list of things to worry about, so more clarity on diagnosis and whether and when to initiate treatment would be welcome.

N Engl J Med doi:10.1056/NEJMoa2214956

One small step for mankind

There's no doubting the health benefits of simply walking, and this study evaluated a programme called STRIDE that assesses older (>60 years) patients' gait and balance on admission to a medical ward and prescribes daily supervised walks for the duration of their stay. The eight participating US hospitals were randomly assigned in two stratified blocks to a launch date for STRIDE, and patients in the pre- and post-STRIDE time periods were matched. More people were discharged to a nursing home rather than back to the community in pre-STRIDE periods than in post-STRIDE (13% v 8%), but there were no differences in length of hospital stay or numbers of inpatient falls, which is surprising. A major problem is that the programme didn't reach most eligible patients (the proportion of patients with any

documented walk during admission was only 0.6-22.7%). Chances are that patients did walk, but no one recorded it. However, to justify spending on STRIDE or equivalent programmes, more robust data are needed.

Ann Intern Med doi:10.7326/M22-3679

Competing interests: None declared

Provenance and peer review: Not commissioned; not peer reviewed