Tom Nolan’s research reviews—17 March 2022

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Radioiodine goes off air

Rates of death from stage I or II differentiated thyroid cancer are close to zero. An analysis in the Lancet in 2020 estimated over one million thyroid cancer overdiagnoses (over 80% of them in women) between 2008 and 2012 across 26 countries. Even in these low risk cancers, total thyroidectomy with postoperative radioiodine has been the standard treatment.

However, that’s likely to change in light of the findings from the first randomised control trial of thyroidectomy without radioiodine in patients with low risk thyroid cancer. A total of 730 patients were randomised to thyroidectomy with radioiodine or thyroidectomy alone and followed up for three years: 95.6% of patients in the no radioiodine group and 95.9% of those in the radioiodine group avoided all functional, structural, and biological abnormalities at three years—which met the study protocol’s criteria for non-inferiority.


Survival rates in advanced breast cancer

At the other end of the cancer spectrum, a study of a new treatment for breast cancer has reported a five-year survival of 44.2% in the treatment arm versus 32% in the placebo control arm. The drug is ribociclib, an oral CDK4/6 inhibitor taken for 21 consecutive days followed by a seven day break in repeated 28 day cycles. The study recruited 668 postmenopausal women with HR-positive, HER2-negative, recurrent or metastatic breast cancer and randomised them to take ribociclib or placebo, in addition to letrozole. The median survival was 63.9 months in the ribociclib group and 51.4 months in the placebo arm, giving a hazard ratio for death of 0.76 (95% confidence interval 0.63 to 0.93). Weighing against the survival benefit from ribociclib are several common side effects that include neutropenia (65.3%), nausea (55.1%), and anaemia (24%).


Brucie bonus

Reading about a study comparing outcomes between CT coronary angiography and invasive coronary angiography, I felt a twinge of nostalgia—or at least I think it was nostalgia and not angina—for the days of the exercise ECG. On a brief diversion into Google, I found that it was developed in the 1950s by Robert Bruce (he of the Bruce protocol), who created the world’s first motorised treadmill in the process.

Current NICE guidelines support CT coronary angiography over invasive coronary angiography for most people with stable angina, as does this new study. The researchers enrolled 3561 patients with stable chest pain and an intermediate pretest probability of obstructive coronary artery disease. No difference in major cardiovascular events were seen between those randomised to CT versus those who had invasive coronary angiography, and the incidence was surprisingly low in both groups at 2.1% and 3% respectively. Meanwhile, 0.5% of those having a CT and 1.9% of those having invasive coronary angiography had major procedure-related complications.


Memory bank

Money may not make you happy, but it might stop you getting dementia—according to an analysis of older patients discharged from intensive care in the US. Researchers used Medicare and Medicaid eligibility as a proxy for socioeconomic disadvantage and adjusted for clinical characteristics and other demographics. They found a “10-fold greater odds of transitioning to probable dementia status” in those eligible for Medicare and Medicaid compared with those who weren’t, but no difference in anxiety and depression symptoms. The usual caveats around causation, confounding, and generalisability apply to this retrospective analysis of a cohort study, but the findings that socioeconomic status may make a difference to recovery after a hospital admission come as no surprise.

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Cutting TB treatment length in children

A million children each year develop tuberculosis. Guidelines recommend a six month course of antibiotic treatment, but could a shorter course be enough for non-severe disease? A total of 1204 children in Uganda, Zambia, South Africa, and India with non-severe, symptomatic TB with negative respiratory smear results were randomised to either the usual six month course of treatment or to four months’ treatment. The aim was to see if a shorter course of treatment was as good as six months as measured by a composite of treatment failure (treatment extension or TB recurrence), loss to follow-up, or death after 72 weeks. After events occurring before four months were excluded, 3% of participants in both the four month and six month groups had one of these “unfavourable events,” leading researchers to conclude that four months’ treatment is non-inferior to six.


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