Abstracts

Breast cancer screening: One life saved at a cost of three overdiagnoses

An independent expert panel estimated the risks and benefits of screening for breast cancer in the UK, where women in the age bracket of 50 - 70 years are invited for mammography every three years. It seems that for every 235 women who are invited for screening, or every 180 women who are screened, one life is saved, but three women are diagnosed and treated for a cancer that would not otherwise have become apparent in their lifetime (overdiagnosis).

Nearly a fifth of women who receive a diagnosis at screening are overdiagnosed, but it is impossible to know which ones. However, a woman who attends all invitations to mammography screening has only a 1% chance of being diagnosed with a cancer that would never have caused problems if she had not been screened.

These are best estimates from inadequate data, the panel emphasised. They reviewed the evidence available from the literature and heard testimonies from leading experts. Trial evidence was considered most valid, although only three of 10 available trials had been randomised properly. Together, the trials looked at nearly 700 000 women and were done between 1963 and 1991. Have improvements in treatment over the years made these findings irrelevant? The panel found no data to support this and thought that relative risk reductions achieved in the trials (20%, 95% CI 11 - 27%) should still hold today.

The best evidence on overdiagnosis came from three trials in which women randomised to the control group weren't offered screening at the end of the study period. Overdiagnosis was assessed from the population perspective, as the proportion of all cancers ever diagnosed in women invited to screening who are overdiagnosed. It was also assessed from the perspective of a woman invited for screening, as the probability that a cancer diagnosed during the screening period represents overdiagnosis.

Many observational studies were also considered, but results varied greatly and contributed little to the panel's final estimates.

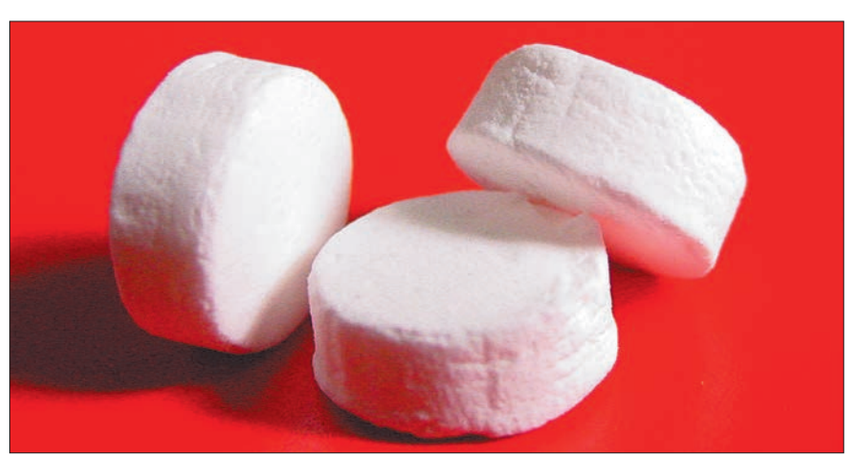
Independent UK Panel on Breast Cancer Screening. Lancet 2012;380:1778-1786. [http://dx.doi.org/10.1016/S0140-6736(12)61611-0]

Aspirin prevents recurrent venous thrombo-embolism

When people with an unprovoked episode of venous thrombo-embolism complete oral anticoagulation, they have to choose between two unsatisfactory options. They can stop treatment altogether and risk a recurrence, or they can continue with the inconvenience of oral vitamin K antagonists and risk a bleed. Long-term treatment with low-dose aspirin may be a good compromise, say researchers. Aspirin didn't reduce recurrences significantly in the latest placebo-controlled trial (4.8% v. 6.5% per year; hazard ratio with aspirin 0.74; 95% CI 0.52 - 1.05). However, it did reduce the risk of major cardiovascular events and recurrences combined (5.2% v. 8.0% per year; 0.66, 0.48 - 0.92) without increasing the risk of clinically relevant bleeding (1.1% v. 0.6% per year; p=0.22).

The authors started their trial in 2003. Recruitment was slow, and in 2005 they halved their target from 3 000 to 1 500, adding a plan to combine the results with a comparable ongoing trial. By 2011, they had just 822 patients, well short of both targets, and not enough to provide a conclusive result for the primary outcome. The preplanned meta-analysis boosted power and showed that aspirin reduced risk of recurrent venous thrombo-embolism by a significant 32% (0.68, 0.51 - 0.90), reduced the risk of major vascular events (including recurrences) by a significant 34% (0.66, 0.51 - 0.86), and had no significant effect on risk of bleeding.

Low-dose aspirin may not be as effective as warfarin for these patients, say the



researchers, but it works much better than nothing and will be an attractive alternative for many. Aspirin is easy to take, widely available, cheap, requires no monitoring, and has a reasonable safety profile.

Brighton TA, et al. N Engl J Med 4 November 2012. [http://dx.doi.org/ 10.1056/NEJMoa1210384]

Non-fasting lipid testing

It may be unnecessary to fast before tests for serum lipids, say researchers from Canada. In a cross-sectional analysis of more than 209 180 results, fasting times made little difference to concentrations of total cholesterol and high-density lipoprotein cholesterol. Concentrations of low-density lipoprotein cholesterol varied by no more than 10% in adults who reported fasting for 1 - 16 hours. Triglyceride concentrations varied by no more than 20%.

The authors analysed men and women separately and adjusted for age. They weren't able to account for drug treatments, or for the content of each person's last meal. All fasting times were self-reported.

Fasting for 9 - 12 hours before a routine blood test is unpleasant and inconvenient. Some people default and others are left in long queues at morning phlebotomy sessions, where most fasting tests are done. The new analysis isn't definitive, but does add to growing evidence that lipid tests done without fasting may be a viable alternative. It would be reasonable to offer a non-fasting test to most people presenting to routine clinics. But we shouldn't abandon fasting tests altogether until we have better prospective studies comparing the clinical value of fasting and non-fasting tests more directly. Most research underpinning current practice was done using fasting tests. We need more reassurance that the non-fasting option is just as good for predicting cardiovascular disease and informing therapeutic decisions.

Sidhu D, Naugler C. Arch Intern Med 2012;12 Nov:1-4. [http://dx.doi.org/10.1001/archinternmed.2012.3708]

Actvity and longevity

A new study has confirmed that active people live substantially longer than inactive ones. Even moderate exercise, equivalent to 75 minutes of brisk walking each week, was associated with 1.8 (95% CI 1.6 - 2.0) extra years of life in pooled analyses from six prospective cohorts. Adults reporting twice as much exercise – the 150 minutes or more of brisk walking recommended by the World Health Organization – lived 3.4 - 4.5 years longer than adults who reported no exercise at all.

The authors adjusted their analyses for age, sex, education, some chronic diseases, and unhealthy lifestyles, including smoking and drinking. They did sensitivity analyses adjusted for diet. The associations between physical activity during leisure time and increased longevity persisted and were evident among normal weight, overweight, and obese adults.

A closer look at the combined contribution of body mass index and exercise suggested it might be better to be active and obese than to be inactive and normal weight. But people who were both inactive and obese died an estimated 7.2 (6.5 - 7.9) years earlier than those who were normal weight and reported doing the equivalent of at least 150 minutes of brisk walking each week.

The authors analysed data from 654 827 adults who were enrolled in cohort studies in the USA and Sweden. More than 82 000 participants died during an average follow-up of 10 years. Cause and effect is impossible to establish in observational analyses, say the authors. But these associations are convincing, and they may persuade adults of all shapes and sizes that moving briskly for even a couple of hours a week is likely to be worth it in the long run.

Moore SC, et al. PLoS Med 2012;9 Nov(11):e1001335. [http://dx.doi.org/10.1371/]