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EMBARGO: 0001H (UK time) Tuesday 7 December 2010

## DAILY LOW-DOSE ASPIRIN SUBSTANTIALLY REDUCES DEATHS FROM SEVERAL COMMON CANCERS

A study published [Online First](#) and in an upcoming Lancet is the first to prove that aspirin reduces death rates from a range of common cancers. The [Article](#) is by Professor Peter Rothwell, John Radcliffe Hospital, Oxford, and University of Oxford, UK, and several colleagues, including Professor Tom Meade, London School of Hygiene and Tropical Medicine.

A previous paper published by Rothwell and colleagues in October 2010 in The Lancet established that long-term low-dose aspirin (ie 75mg per day) reduced death rates from colorectal cancer by more than a third. In this new work, the authors studied deaths due to all cancers during and after randomised trials of daily aspirin versus control done originally for prevention of vascular events.

The authors studied eight eligible trials, that covered 25 570 patients. They showed that allocation to aspirin reduced death due to cancer by 21% during the trials (based on 674 cancer deaths), with benefits apparent after 5 years' follow-up (death rates after 5 years falling by 34% for all cancers and 54% for gastrointestinal cancers).

By long-term follow-up of patients after the trials (including 1634 cancer deaths) they also showed that the 20-year risk of cancer death remained 20% lower in groups who had previously been allocated aspirin than in the control groups for all solid cancers, and 35% lower for gastrointestinal cancers. The latent period before an effect on deaths was about 5 years for oesophageal, pancreatic, brain, and lung cancer, about 10 years for stomach and colorectal cancer, and about 15 years for prostate cancer. For lung and oesophageal cancer, benefit was confined to adenocarcinomas (the type of cancer most commonly seen in non-smokers). The 20-year risk of death was reduced by about 10% for prostate cancer, 30% for lung cancer, 40% for colorectal cancer and 60% for oesophageal cancer. The reductions in pancreas, stomach and brain cancers were difficult to quantify exactly because of smaller numbers of deaths. However, the authors note that treatment with aspirin during the trials lasted for only 4-8 years, on average, and so the effects on subsequent risk of deaths due to cancer may well underestimate those that would result from longer-term treatment (eg, from age 50-75 years).

Benefit was unrelated to increasing aspirin dose (75 mg upwards), sex, or smoking, but the absolute effect on 20-year risk of cancer death increased with age, falling from about 25% to about 18% in participants who were aged 65 years or older at the start of treatment.

The authors say: "These findings provide the first proof in man that aspirin reduces deaths due to several common cancers. Benefit was consistent across the different trial populations, suggesting that the findings are likely to be generalisable."

Rothwell noted that\* "these results do not mean that all adults should immediately start taking aspirin, but they do demonstrate major new benefits that have not previously been factored into guideline recommendations." He added that\* "previous guidelines have rightly cautioned that in healthy middle aged people the small risk of bleeding on aspirin partly offsets the benefit from prevention of strokes and heart attacks, but the reductions in deaths due to several common cancers will now alter this balance for many people."

The authors conclude that taking aspirin daily for 5-10 years, as in the trials, reduced all-cause mortality (including any fatal bleeds) during that time by about 10%. Subsequently, there were further delayed reductions in cancer deaths, but no continuing excess risk of bleeding. In terms of cost-effectiveness, such benefit would exceed that of established initiatives such as screening for breast or prostate cancer, potentially justifying added costs to reduce bleeding complications, such as co-prescription of a proton-pump inhibitor and further development of more effective derivatives of aspirin.

Rothwell and colleagues note that more research is required. Effects of aspirin on incidence of cancer must be determined, both for cancers that are less commonly fatal and to determine whether the latent period before an effect is shorter than for death. More trial data are required for the effect of aspirin on risk of breast and other cancers of women. Follow-up beyond 20 years is necessary to identify any late rebound in cancer deaths. Rothwell and his study group hope to report the answers to these and other questions with new research during 2011.

Rothwell concludes\*: “Perhaps the most important finding for the longer-term is the proof of principle that cancers can be prevented by simple compounds like aspirin and that ‘chemoprevention’ is therefore a realistic goal for future research with other compounds.”

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For full **Article** and **Comment**, see: **LINK TO BE ADDED**

**Note to editors:** \*quote direct from Prof Rothwell not found in text of study

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