

DISEASE PREVENTION

Pain killer—cancer preventer

Genetic factors for increased risk of colorectal cancer have long been established, but cancer prevention options for carriers of these mutations have been limited. Aspirin has consistently been implicated in reduced incidence of colorectal cancer in observational and retrospective studies, and now a prospective trial has shown that taking 600 mg of aspirin a day can reduce the risk of developing colorectal cancer.

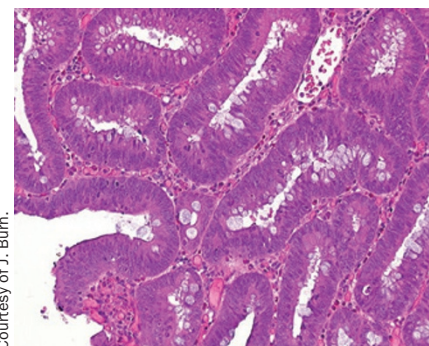
The study has its origins in work that started decades ago. As the lead author John Burn explains, “in the late 80s I became involved in caring for families with hereditary colorectal cancer and in the search for the genetic basis of dominant forms. I conceived the idea of running genetically targeted cancer prevention trials, which are normally prohibitive in time and money.”

The group that Burn chose to conduct this study in were highly motivated individuals who had already been identified to be at high-risk of colorectal cancer (with Lynch syndrome) and so were already under close observation. The participants were randomly assigned in a 2 × 2 factorial design to receive 600 mg aspirin, aspirin placebo, 30 g resistant starch or starch placebo. In

all, 861 individuals were assigned to the aspirin or aspirin placebo arms of the trial. Important aspects of the trial are noted by Burn: “we made colorectal cancer prevention the primary end point of our trial, the first to do so, and built in a 10 year double-blind follow up as the epidemiology suggested effects on cancer might not emerge for several years.”

The data from the trial have been reported with a median follow-up period of 55.7 months, which was sufficient to show a significant difference between the two arms of the study. “We demonstrated a highly significant 63% reduction in colorectal cancers in those who complied with the request to take two 300 mg aspirins daily for a minimum of 2 years compared to those who were on placebo,” says Burn. These results are, by any interpretation, highly exciting and Burn was further able to explain that they are “in keeping with recent studies led by Peter Rothwell who has demonstrated by meta-analysis ... a reduced cancer incidence and cancer mortality becoming apparent around 7–10 years after the episode of aspirin use.”

The present study also assessed the adverse events that occurred in the participants during the intervention



Courtesy of J. Burn.

period of the trial. Surprisingly, given the reasonably high aspirin dose, there were no significant differences in toxic effects between the placebo and aspirin groups.

The results from this trial indicate quite clearly that individuals with Lynch syndrome would likely benefit from taking aspirin. The questions that still remain to be answered are how often and how much? Burn and his colleagues are already planning to answer these questions in an upcoming clinical trial, CaPP3.

Rebecca Kirk

Original article Burn, J. *et al.* Long-term effect of aspirin on cancer risk in carriers of hereditary colorectal cancer: an analysis from the CAPP2 randomised controlled trial. *Lancet* doi:10.1016/S0140-6736(11)61049-0

Further reading CaPP3. *Cancer Prevention Programme* [online], <http://www.capp3.org/> (2011)