

Aspirin -- The Drug of the Day

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A recent article showing that users of aspirin had a better survival rate after they were diagnosed with breast cancer received a lot of press, but what does it really mean?

I think that this is an example of a very preliminary observation that resonates with both the public and the medical world, but is fraught with uncertainty. On one hand, there is a lot of evidence that inflammation and clotting are both related to cancer, so it stands to reason that a drug which can affect both, could also be a cancer treatment. However, this article illustrates the problems of using a retrospective design--in this case from the Harvard Nurse's Health Study, a cohort of over 120,000 nurses with many years of detailed personal and clinical information gathered since 1976.

This cohort has generated hundreds of important articles, and since about 4,000 individuals have developed early-stage breast cancer, findings--such as a protective effect of exercise on breast cancer recurrence--have been reported earlier.

Participants with stage I, II, or III breast cancer were asked about aspirin use and then rates of breast cancer in these women were examined. Those who used 1 aspirin a week had no difference in breast cancer deaths rates compared to non-users, but those who took *more than* 1 aspirin a week, had two-thirds fewer deaths--a rather dramatic "effect." But is this really an effect, or just an association?

The researchers involved used statistical tools to correct for other factors, such as age, weight, diet, physical activity, and reproductive factors, but it is not possible to consider every subtle association with aspirin use. This is why we have to do *prosp* *prospectiv* trials to confirm these findings, and even the authors of this article concede that such a trial would be needed before we could recommend aspirin to patients with breast cancer routinely.

Unfortunately, such trials require upward of 3,000 subjects and five or more years of follow-up time. So, given the multi-million dollar price tag, there is tremendous competition as to what strategies should be tested. This is why we are left with many clues but few answers about these types of reports.

So, my answer for now is--do not take aspirin automatically if you have breast cancer. *But* do lobby your congressmen and others to develop an efficient and comprehensive clinical trial system that is broadly inclusive of patients and centers and is efficiently run using innovations in information technology. This is one solution to rapidly confirm the findings you see on an almost daily basis in these types of press releases. Hopefully, we will be able to chase more leads in the near future than we do now.