Low dose aspirin did not prevent cancer in healthy women


Clinical impact ratings GP/FP/Primary care ***** IM/Ambulatory care ***** Internal medicine *****

In healthy women ≥45 years of age, how effective is aspirin in preventing cancer?

**METHODS**

- **Design:** randomised placebo controlled trial (Women’s Health Study [WHS], a randomised 2 × 2 factorial trial).
- **Allocation:** concealed.
- **Blinding:** blinded (participants, healthcare providers, data collectors, and outcome assessors).
- **Follow up period:** mean 10.1 years.
- **Setting:** (a mail-based trial in female healthcare professionals in the US).
- **Participants:** 39 876 women ≥45 years of age (mean age 55 y) without a history of cancer (except non-melanoma skin cancer), cardiovascular disease, or other major chronic illness and no history of adverse effects to aspirin who were not taking aspirin or non-steroidal anti-inflammatory drugs more than once per week; not taking anticoagulants or corticosteroids; or individual supplements of vitamin A, vitamin E, or β-carotene more than once per week.
- **Intervention:** aspirin (100 mg every other d) (n = 19 934) or matching placebo (n = 19 942).
- **Outcomes:** total invasive cancer, excluding non-melanoma skin cancer. Secondary outcomes were breast, colorectal, and lung cancer.
- **Patient follow up:** 97% for morbidity and 99% for mortality (intention to treat analysis).

*See glossary.
†Information provided by author.

**MAIN RESULTS**

Aspirin and placebo groups did not differ for incidence of total invasive cancer (table). Groups also did not differ for incidence of breast, colorectal, or lung cancer (table). Group did not differ for total cancer mortality or site specific cancer mortality except for lung cancer mortality, which showed a reduction with aspirin (0.3% v 0.4%; relative risk 0.70, 95% CI 0.50 to 0.99).

**CONCLUSION**

In healthy women ≥45 years of age, low dose aspirin did not prevent total cancer or breast, colorectal, or other cancers.

Abstract and commentary also appear in ACP Journal Club.

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**Aspirin v placebo to prevent total invasive cancer and breast, colorectal, and lung cancer at mean 10.1 years**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Aspirin</th>
<th>Placebo</th>
<th>RRI (95% CI)</th>
<th>NNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total invasive cancer</td>
<td>7.2%</td>
<td>7.2%</td>
<td>1.0% [–8 to 6]</td>
<td>Not significant</td>
</tr>
<tr>
<td>Total cancer death</td>
<td>1.4%</td>
<td>1.5%</td>
<td>5.0% [–11 to 19]</td>
<td>Not significant</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>3.1%</td>
<td>3.1%</td>
<td>2.0% [–9 to 13]</td>
<td>Not significant</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>0.7%</td>
<td>0.7%</td>
<td>3.0% [–24 to 23]</td>
<td>Not significant</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>0.5%</td>
<td>0.6%</td>
<td>22% [–3 to 41]</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; RRI, RRR, NNH, NNT, and CI calculated from data in article.