Aspirin in atherosclerotic cardiovascular disease (ASCVD) prevention

By David K. McCulloch, MD, Medical Director, Clinical Improvement

Clinical question
What should we recommend about aspirin use for the primary prevention of ASCVD?

Recommendations
The answer has become less clear over time.

In the past, we've been fairly liberal about recommending low-dose aspirin in the belief that it is relatively innocuous and "might do some good and probably won't do much harm." Cardiologists—being focused on the potential for preventing future ASCVD events—have tended to make stronger recommendations in favor of aspirin therapy, while gastroenterologists—who see patients with GI bleeds due to aspirin use—have been less enthusiastic.

In recent years, newer studies and the reevaluation of previous studies have suggested that the benefits of aspirin are less than we used to think and the potential harms are greater.

The latest recommendations from the ACC/AHA
In its 2019 Guideline on the Primary Prevention of Cardiovascular Disease, the American College of Cardiology/American Heart Association recommends that:

1. Low-dose aspirin (75–100 mg orally daily) might be considered for the primary prevention of ASCVD among select adults aged 40–70 years who are at higher ASCVD risk but not at increased bleeding risk.

2. Low-dose aspirin should not be administered on a routine basis for the primary prevention of ASCVD among adults over age 70.

Low-dose aspirin should not be administered for the primary prevention of ASCVD among adults of any age who are at increased risk of bleeding.

…and what to make of them
How helpful are these recommendations for everyday clinical practice? They seem rather vague, requiring interpretation and prompting several clarifying questions:

- The phrase "might be considered" suggests that shared decision-making (SDM) between provider and patient is recommended, although the ACC/AHA isn't explicit on this point. Patients will vary considerably in how much they fear heart attacks and strokes and how much they fear bleeding episodes.

- The ACC/AHA recommendations leave it vague about what level of "higher ASCVD risk" is sufficient to recommend the use of low-dose aspirin, and how that risk is best assessed. Reported risk levels vary depending on which ASCVD risk calculator or estimator is used. For example, a careful, comprehensive review of millions of Kaiser Permanente patients over the past 10 years showed that the Pooled Cohort Equation calculation consistently overestimates future ASCVD risk. Based on these findings, a KP National team developed a modified tool—the KP Atherosclerotic Risk Estimator, or KPARE—that gives a more reliable estimate of ASCVD risk. A 10-year risk of 10% using the Pooled Cohort Equation calculator that we currently have in Epic is equivalent to a risk of 7.5% using KPARE.
• How should we define "not at increased bleeding risk?" There is a long list of factors associated with increased risk of bleeding, but they confer different amounts of increased risk. That list includes a previous GI bleed or known peptic ulcer disease, previous bleeding from other sites, age over 70, thrombocytopenia, coagulopathy, CKD, and use of NSAIDs, steroids, or other anticoagulants.

Where does this leave us?

The table below summarizes and juxtaposes the aspirin recommendations in the KP National, KP Washington, and ACC/AHA guidelines. Note the differences in language and inclusion of bleeding risk.

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<th>Low-dose aspirin recommendations for primary prevention of ASCVD: comparison</th>
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<tr>
<td><strong>Population</strong></td>
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<td>Age &lt; 40</td>
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<td>Age 40–49</td>
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<td>Age 60–69</td>
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<td>Age ≥ 70</td>
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The KP National Guideline Team—in which KPWA is an active participant—will reevaluate what we should recommend later this year.

Resource

KPWA Primary Prevention of ASCVD Guideline

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