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## Many low/intermediate-risk patients still get aspirin for primary prevention: PARADIGM

OCTOBER 24, 2011 Shelley Wood

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**Vancouver, BC** - When investigators for the **PARADIGM** registry reviewed the use of cardiovascular medications prescribed by family physicians to more than 3000 healthy, middle-aged Canadians, they found that almost 14% were prescribed aspirin. The million-dollar question was, why?

Presenting the results of the analysis here at the Canadian Cardiovascular Congress 2011, **Dr Milan Gupta** (Canadian Cardiovascular Research Network, Brampton, ON) reminded his audience that the Canadian antiplatelet guidelines were among the first to advise against routine use of aspirin for people without evidence of vascular disease. But the guidelines do leave some wiggle room, stating that "in special circumstances in men and women without evidence of manifest vascular disease in whom vascular risk is considered high and bleeding risk low, ASA 75-162 mg daily may be considered"—advice that is given a class IIb recommendation, level of evidence C.

PARADIGM was a Canada-wide observational registry that enrolled 3015 generally healthy, middle-aged adults being treated by general practitioners and excluding anyone with diabetes or vascular disease. A medication review showed that roughly 11% were taking an ACE inhibitor and another 11% were taking an angiotensin-receptor blocker (ARB); beta-blocker and calcium-channel-blocker (CCB) use was low; roughly 15% were taking a diuretic; and 13.5% were taking aspirin.

### Why aspirin?

The aim of the current analysis, Gupta told heartwire, was to better understand why these patients had been prescribed aspirin. An analysis of cardiovascular risk factors in patients prescribed aspirin vs those who weren't showed that the aspirin group was significantly older, more likely to smoke and/or have a family history of heart disease, and have higher body-mass index (BMI) and larger waist circumference. The aspirin group also had more than double the rates of hypertension than the nonaspirin group.

But as Gupta showed here, the kinds of biomarkers that might be more useful in predicting a higher risk of vascular disease—LDL, fasting glucose, HbA<sub>1c</sub>—were no different between the two groups.

Gupta and colleagues then looked at Framingham risk scores, to see whether these might be driving the decision among primary-care physicians to prescribe aspirin, and indeed, mean modified scores were significantly higher in the aspirin group than in the group not prescribed aspirin.

But when patient Framingham risk scores were broken down into low-, intermediate-, and high-risk groups, fewer than one in five patients actually had a high Framingham risk score.

### Framingham scores by aspirin prescription

Framingham risk score	Aspirin, n=406 (%)	No aspirin, n=2609 (%)	p
Mean	22.3	13.5	<0.00001
Low	34.2	53.4	<0.00001
Intermediate	47.8	34.5	<0.00001
High	18.0	12.2	<0.00001

"So what we saw is that more than 80% of patients prescribed aspirin by their primary-care physicians were actually at low or intermediate risk by Framingham," Gupta told heartwire.

In an analysis that looked at gender differences among patients prescribed aspirin, Gupta et al observed that women had somewhat higher levels of LDL and HbA<sub>1c</sub>, but overall, women had much lower mean modified Framingham risk scores than men, and more than 77% of women, compared with 43% of men, were at low or intermediate risk according to Framingham.

This is important, Gupta emphasized, because much of the debate on aspirin has centered on gender differences, with

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aspirin risks more clearly outweighing its benefits in women. In PARADIGM, most of the women given aspirin were actually at low or moderate risk for future events.

### Eyeballing risk?

To *heartwire*, Gupta speculated that part of the explanation for why general practitioners are prescribing aspirin may be the presence of hypertension.

"That could be a residual of our hypertension guidelines and the HQT study. A long time ago, it suggested a benefit, but subsequent studies of aspirin in the general population with and without hypertension have not replicated that."

Certain international guidelines also recommend aspirin for primary prevention in people with diabetes or people with peripheral arterial disease, despite negative or neutral findings in these groups, he added.

"The aspirin findings speak to one of the overall conclusions of our PARADIGM study, and that is that unfortunately family doctors aren't very good at doing risk assessment for primary prevention. We know, for example, that using a risk-factor score like Framingham is very uncommon in clinical practice, and even when physicians say they are using it, they are not using it correctly," Gupta told *heartwire*.

"My suspicion," he continued, "is that family doctors are eyeballing risk, they're saying, well, you're older and you have high BP, so I'm going to put you on aspirin."

Most cardiologists in Canada, he adds, are not actively involved in primary prevention—this falls to primary-care physicians, who are slow to incorporate CVD prevention guideline evidence into practice.

"There needs to be better ways of educating primary-care physicians as to where it is clear that aspirin should be used, in secondary prevention and in diabetics with multiple risk factors, and very clear where aspirin should *not* be used, in people at low CV risk. Because, from our data, it's clear that that message is not out there."

Gupta also pointed out that the general public has also not absorbed the aspirin/primary-prevention message—his study looked only at patients whose doctors had actually prescribed aspirin, not patients who were self-prescribing in the hopes of warding off future disease. "So this is probably just the tip of the iceberg of people who are taking aspirin for CV prevention, many of whom don't need it."

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john mallery

**Aspirin benefits**  
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*Author's disclosure (Oct 25, 2011)*  
I have no relevant disclosures to make in connection with this topic

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