Aspirin for Primary Cardiovascular Prevention. Are we making a mistake for decades?

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Aspirin is known since millennia. The substance called acetylsalicylic acid was given the name Aspirin by Bayer, in 1899. Later on, Bayer lost or sold this trademark and the name aspirin is used today almost like a generic name.

Aspirin was used as an antiinflammatory drug since centuries. It was recognized as an anti-thrombotic drug since 1950 (1), and from the ’80s of the last century to the present, it has been using for cardiovascular (CV) prevention.

There is absolutely no doubt about its use in secondary prevention, as indicated in all current guidelines (excepting contraindications) – for secondary prevention, the benefit is much larger than the harm.

But what about primary prevention? For decades, the same thing was thought to be true. The benefits, not as large as in secondary prevention, were considered to exceed, however, the harms. The most known argument in this direction was offered by the ATT Collaboration in 2009 (2). Even today, both European and American guidelines on diabetes recommend aspirin for cardiovascular prevention in patients with diabetes without prior major cardiovascular (CV) events (3, 4).

Of course, what represents primary versus secondary prevention remains a matter of discussion. Primary prevention considers the therapy given to a person who did not have any major CV event such as myocardial infarction or stroke. However, someone who has a cluster of cardiovascular risk factors, but not also (yet) a major CV event, is often at a higher risk for a cardiovascu-
lar event than an individual who had a – let’s say accidentally – myocardial infarction. In this case, prevention – despite being called “primary” – may be more important for the first person with a high CV risk than for the second one, when it is called “secondary”.

And now, the storm comes... After years of accepting that the benefit of Aspirin is greater than the harm in different forms of primary prevention, the most respected New England Journal of Medicine – and not only – has lately published a series of papers demonstrating that, in different forms of primary prevention and various populations, the harm of aspirin exceeds or, in the best case scenario, equals the benefit in what is called “primary prevention” (5-8).

Trying to find explanations in an analysis on randomized trials of primary prevention on more than 100 000 patients, Rothwell et al (9) considered, among other factors, the necessity of dosing the aspirin according to body weight. No positive result in this direction has been obtained yet (9).

The recent literature regarding the low benefit of aspirin in primary cardiovascular prevention is not limited to the cited titles. The 2018 conclusion to date is not to stop aspirin for primary prevention, but to re-analyze all conditions into which aspirin is prescribed for CV prevention on a lifetime manner.

I think that one of the answers will come when we will abandon the terms primary and secondary cardiovascular prevention. When a person with numerous CV risk factors has been already demonstrated to have atherosclerotic vascular disease, although not yet with a prior major event, we may not say that he/she is in simple primary prevention.

I think we should simply say that we perform cardiovascular prevention rather than secondary or primary prevention – just prevention based on a risk score calculated according to the “classical” CV risk factors PLUS prior major CV events. The cut-off value where prevention with aspirin is warranted should be clearly defined.

References