Editorial

Aspirin and Clinical Trials

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Aspirin, also known as acetylsalicylic acid is often used as an analgesic to relieve minor aches and pains, as an antipyretic to reduce fever, and as an anti-inflammatory medication. It was first isolated by Arthur Eichengrün, a chemist with the German company Bayer. Today, aspirin is one of the most widely used medications in the world, with an estimated 40,000 tonnes of it being consumed each year. In countries where it is a registered trademark owned by Bayer, the generic term is acetylsalicylic acid (ASA).

Aspirin has an anti-platelet effect since it inhibits the production of thromboxane, which under normal circumstances binds platelet molecules together to create a clot over damaged walls of blood vessels. Platelet clots can become too large and so block blood flow, leading to stroke and other cardiovascular problems. This is why aspirin is usually recommended to be used long-term, at low doses, to help prevent heart attacks, strokes, and blood clot formation in people at high risk of developing blood clots. Much information has been got on the risks and benefits of aspirin in relation to cardiovascular problems through clinical trials, and the interesting results got are influencing clinical decisions with individual patients in routine clinical practice. These studies have been extended to include the effects of aspirin on non-vascular outcomes, such as cancer, Parkinson's disease, and asthma.

To get the results, various studies have looked at the various possible beneficial effects of aspirin over the years, using clinical trials designed to provide appropriate answers. These included observational studies (in which the researcher simply observed behaviour in a systematic manner without influencing or interfering with the behaviour using case-control and cohort strategies). The studies also included randomised controlled trials (RCTs) in which subjects were allocated at random to receive aspirin or a placebo and the outcomes were closely observed. Further, systematic review - by the application of scientific strategies in ways that limit bias - of all high quality research evidence relevant to the clinical trials, was also used to analyse the data.

Using these scientific strategies, data obtained was critically analysed and the following tentative conclusions have been reached:

1) Taking low doses of aspirin for five years reduces the risk of death from cancer (of the colon, oesophagus, and breast, among other body parts) by 37 percent.
2) Regular aspirin consumption reduces the risk of asthma by 22 percent.
3) People who take aspirin on at least one day per month have a 26 percent lower risk of developing pancreatic cancer than people who do not take aspirin on at least one day per month.
4) People who take adult-strength aspirin regularly for at least five years are 30 percent less at risk of developing colorectal cancer than people who do not take aspirin regularly.
5) People who take aspirin on at least one day per month are 35 percent less at risk of developing heart disease than people who do not take aspirin on at least one day per month.

So, can we all go for aspirin? Aspirin can potentially cause serious harmful effects, such as stomach irritation and bleeding (haemorrhage). Indeed, side effects of aspirin include indigestion, stomach ulceration, and gastrointestinal bleeding. Aspirin, even in low doses may not be suitable for everyone, so everyone should not just start taking it.

In spite of these shortcomings, these results show that aspirin is certainly one of the most important drugs around today.

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