Letter to the Editor

The Post-JUPITER Trial Era and the Cost of Preventive Medicine

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On November 9, 2008, the New England Journal of Medicine published on-line an article[1] and an editorial[2] concerning the use of 20 mg of rosuvastatin in 17,802 apparently healthy individuals with C-reactive protein (CRP) levels >2.0 mg/L (the JUPITER trial). The trial was randomized, double-blind, placebo-controlled, and multicenter. The combined primary endpoint included myocardial infarction, stroke, arterial revascularization, hospitalization for unstable angina, or death from cardiovascular causes. The trial was prematurely stopped at the first pre-specified efficacy evaluation point by the safety monitoring board, as the available data demonstrated clearly the effectiveness of rosuvastatin in the prevention of all but one (hospitalization for unstable angina) points of the combined primary endpoint.

My purpose is not to delve into the factual analysis of the JUPITER study but rather to comment on its medico-social consequences. As 49 more deaths were recorded during the 1.9 years mean period of follow up among the 8901 individuals of the placebo group, we estimate that rosuvastatin could prevent merely 4.0 deaths from myocardial infarction, stroke, or other confirmed cardiovascular cause and 2.5 deaths from all causes per 1000 apparently healthy individuals with CRP >2.0 mg/L per year. Considering that the mean cost of rosuvastatin at 20 mg once daily is $3.45, we deduce that saving a life for a year requires about $503,700. This number can be reduced to about $314,800 if we focus on patients with cardiovascular events. Similarly, the cost of preventing any myocardial infarction would be about $629,600 and any stroke about $787,000. These estimations are somewhat lower in Greece, as the governmental drug pricing policy keeps the cost at a substantially lower level.

Although the abovementioned number is very high, a key ethical issue arises: as the current guidelines do not generally recommend statin administration in patients with low-density lipoprotein levels <130 mg/dL, and high sensitivity CRP levels are not routinely measured, should the relevant scientific organizations incorporate the use of rosuvastatin in this group of "healthy" individuals in their recommendations or should doctors be left free to prescribe statins on an individualized basis for preventive purposes?[3] In both cases, are we ready to undertake the immense cost, even if hard evidence is available?

I would rather be interested in seeing larger untargeted clinical trials on a population basis, which will cover primary prevention of vascular events in all adults using doses of rosuvastatin even lower than 20 mg. Of course, this project is far too big even for a large pharmaceutical company. Thus, the only way we could gather this kind of information is to take advantage of pragmatic field data from every doctor prescribing rosuvastatin for prevention purposes from now on, under the guidance

of a scientific organization. This implies the necessity for all doctors to develop socio-medical awareness by means of a contribution to an international public health project.

Closing, I wonder about future prospects in Greece. The JUPITER trial represents a very hard piece of evidence for drug intervention in terms of primary prevention, at least in a group of healthy individuals. In an era of ongoing worldwide financial instability, how might the national insurance policy be adapted? While we wait for lengthy bureaucratic deliberations to provide a solution, what should be our attitude towards the people who are expecting truthful answers? To cross the red line, advising those who should receive rosuvastatin for prevention to do this at their own cost; or to hide beyond non-scientific aphorisms?

References

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