Chapter 5. Conclusions

The available scientific studies offer little evidence that supplementation with vitamin C, vitamin E, or coenzyme Q10 has any benefit on cardiovascular disease prevention or treatment. Indeed, for vitamin E and vitamin C there is good evidence that supplementation at the doses tested provides no benefit, in that large placebo controlled, randomized studies have reported no benefit in terms of all cause mortality, cardiovascular mortality, myocardial infarction, or blood lipids (e.g., the MRC/BHF trial, GISSI, HOPE, PPP, ATBC). Isolated examples of possible benefit for vitamin E or vitamin C supplementation reported for specific outcomes in certain trials failed to be supported by other outcomes in the same trials (for example, the statistically significant beneficial effect of vitamin E supplementation on incidence of nonfatal myocardial infarction observed in the CHAOS trial must be balanced against the nonsignificant increase in fatal myocardial infarction with vitamin E in the same trial) or be confirmed in other trials. This lack of consistency in the evidence casts doubt on any of the reported associations being causal.

There is good evidence that vitamin E supplementation has no clinically important effect on lipid levels.

Regarding coenzyme Q10, the available evidence is much less, in terms of large randomized trials, than for vitamins C or E. Therefore, our conclusions are less definitive. The reported results have been mixed, with a meta-analysis and some individual studies reporting improvements in measures of cardiac function, but other studies reporting no such benefit. The more recent randomized trials report smaller benefits, if any, than older trials. The most that can be concluded at this point is that there is no conclusive evidence either supporting or refuting an effect of coenzyme Q10 on cardiovascular disease.