

Brain problems

Apart from the adrenal glands, the highest cholesterol concentration occurs in the brain. Practically all of this cholesterol is produced by the brain cells themselves because in the brain, little or no LDL-cholesterol is taken up from the blood. The rate of cholesterol synthesis is extremely high in the central nervous system of the foetus and the newborn, probably explaining the severe brain malformations seen in children with Smith-Lemli-Opitz syndrome, because the victims of this inborn error of metabolism are unable to produce cholesterol in sufficient amounts; these children's cholesterol is only about a tenth of the average value of normal people.

Cholesterol is used as a component in the membranes of the brain cells and the nerve fibres and is also vital for proper function of the synapses, the connections between the nerve cells. It is therefore not too farfetched to assume that low cholesterol levels may adversely affect brain function in normal people as well.

In a review of the trials performed before the introduction of the statins, Matthew Muldoon and his team from the University of Pittsburgh, Pennsylvania found that a larger number of the treated individuals died from violence or suicide.³¹ They also pointed out that low cholesterol is seen more often in criminals, in people with violent or aggressive-conduct disorders, in homicidal offenders with histories of violence and suicide attempts related to alcohol and in people with poorly internalized social norms and low self-control.

In a comment on the paper, David Horrobin, the former editor of *Medical Hypotheses*, wrote that the most serious consequence of cholesterol-lowering measures is invisible. If low cholesterol levels cause violence and depression, then intervention to reduce cholesterol on a large scale could lead to a general shift to more violent patterns of behavior. Most of this increased violence would not result in death but in more aggression at work and in the family, more child abuse, more wife beating and generally more unhappiness. Such events are not recorded in the trials-no one asks about them-and they are therefore never detected.^{32a}

In other words, we are told about the number surviving a heart attack but not about the number surviving violence or suicide attempts.

The conclusions of Muldoon and his co-workers were supported by a Swedish investigation of more than 50,000 people followed for twenty years.^{32b} During the first six years, five times more had committed suicide among those whose cholesterol was low compared with those whose cholesterol was high.

Several others have confirmed that mental disturbances are more common in people with low cholesterol^{32a-g} For instance, relapse in cocaine addiction is seen more often,³³ and on average, cholesterol in monkeys, dogs, and human beings with a violent behaviour is below normal.³⁴ In the Framingham project those whose cholesterol was the lowest had a lower degree of attention, concentration and word fluency than the others.³⁵

Doctors, who treat their patients with statins should therefore pay attention to possible mental disturbances. There is already much evidence that such treatment may have adverse effects on brain function.

Violence

Beatrice Golomb, a professor of medicine at the University of California in San Diego, has devoted much of her research on the side effects of statins and she is today the most knowledgeable researcher in this area.. In a meticulous analysis of all previous studies on this issue, she concluded that the association is causal, and that the risk of creating violent behavior should be taken into consideration before doctors advise their patients cholesterol lowering measures.³⁶ She also reported about patients with severe irritability and short temper on statin treatment herself. All of them recovered their natural, more patient personality after discontinuation of the treatment, and the symptoms reappeared after re-challenge with the drug.³⁷

There is no medical term for irritability and shortness of temper, so therefore the statin trials do not record such behaviour. As far as the trial directors are concerned, these effects are not on their radar screen. and the practising doctors may easily ascribe them to natural effects of advancing age.

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