

# Letter from . . . Chicago

## Stampede

GEORGE DUNEA

In October the United States declared war on cholesterol. The president came on television munching unsaturated jelly beans, forswearing greasy foods, and vowing to destroy the evil empire of atherosclerosis. Congress characteristically refused to go on a low fat diet but voted not to put Humpty Dumpty together again. It also rejected Ollie North's offer to set up a covert network of dietitians and Senator Kennedy's proposal to put a lipid lab on every street corner. The public responded enthusiastically, dumping tons of eggs and bacon into Boston harbour, and there were scenes of violence in several ice cream parlours. A coalition of beef manufacturers announced that it would henceforth sell only vegetables; McDonald's converted their hamburgers to a mixture of bran, soybean, sand, and ground cauliflower; and the farmers said they would sell eggs only on Tuesdays and Sundays. The influential Union of American Pigs voted to prohibit its members to allow themselves to be eaten. The Daughters of the American Cow, a highly respected waspish organisation, announced that starting next year its members would yield only low cholesterol milk, using a new secret formula soon to be published in the *New York Times*.

Of course in reality things were quite different; and we soon learnt from the *New York Times* that we were dealing with a more limited action. It was largely the doctors going off to war, attacking on a wide front with 20 divisions of health organisations, including the American Medical Association, under the overall leadership of the National Heart, Lung, and Blood Institute. As many as 40 million adults, mostly not under treatment at present, could become objects of the attack. A front page table adapted from the National Cholesterol Education Program explained how desirable total cholesterol levels were to be under 200 mg/dl, borderline between 200 and 239, and excessive over 240. It recommended that every adult American should have his random cholesterol measured every five years, high levels then requiring a fasting low density lipoprotein cholesterol determination followed by dieting or drugs if need be. Borderline cases were to be handled according to what other risk factors—such as a bad family history, hypertension, smoking, low high density lipoproteins, diabetes, a history of stroke, or severe obesity—were present. *JAMA* enthusiastically supported the war but attacked in international units, thus bamboozling all those who did not know how to multiply by 40, let alone by 38·6.<sup>1</sup> Dyslexic doctors first heard the news at medical dinners over a thick soup, steak with béarnaise sauce, and a hefty helping of cheesecake; but lobbyists for the beef and dairy industry skipped dessert to catch an early plane for Washington. And Professor Ivan Illich began to

write a book complaining about the medicalisation of yet another activity that the ancient Greeks and Hindus would have kept out of the hands of the doctors.

### Tasty, satisfying, and nutritious

Later we learned more details from a publication of the National Heart, Lung, and Blood Institute. The total cholesterol levels were indeed as the *New York Times* had said. Patients with high levels, or with borderline levels and risk factors, were to have their low density lipoprotein cholesterol determined indirectly from measuring high density lipoprotein cholesterol and triglycerides. The recommended formula was low density lipoprotein cholesterol = total cholesterol minus high density lipoprotein cholesterol minus triglycerides divided by five. Low density lipoprotein cholesterol levels between 130-160 mg/dl were deemed to be borderline, those outside this range high or low. Treatment should be considered for low density lipoprotein cholesterol levels above 160 mg/dl, and for borderline values with other risk factors. A cholesterol lowering diet would be the first line of treatment, being described as tasty, satisfying, nutritious, and not requiring radical changes for most people following it. The diet would be in two steps, the first one lowering total fat to less than 30% of calories and cholesterol to less than 300 mg a day. The second step diet, which may require help from a dietitian, is more drastic, reducing fat intake to less than 7% of calories and cholesterol to less than 200 mg a day. Drug treatment, when necessary, might start with one of the resins, cholestyramine (4-24 g) or colestipol (5-30 g)—poorly tolerated because of bloating and constipation, but acceptable if you start slowly and build up the dose gradually. Nicotinic acid (2-12 g daily) is a reasonably safe line drug; it does, however, cause flushing and may elevate liver enzymes. The newly introduced lovastatin could become the best third line drug if proven to be safe, lowering cholesterol quite dramatically, but costing two to four dollars a day. Gemfibrozil (600 mg bid) may also play a part, especially in view of its successful use in the Helsinki heart study.<sup>2</sup>

The anticholesterol war marks the climax of decades of atherosclerosis research indicating a continuously increasing risk of coronary heart disease above cholesterol levels of about 160 mg/dl. This risk increases by 1% for every 1% (2 mg/dl) in excess of 200 mg/dl, becoming four times higher at 260 mg/dl than at 170 mg/dl. That the dangers of coronary heart disease could be decreased was first shown by several diet studies, also by the World Health Organisation's clofibrate study—despite its unexpected increased mortality in the actively treated group. Then the Lipid Research Program described a 21-17% reduction in coronary events when total and low density lipoprotein cholesterol levels were lowered by 13% and 20% with cholestyramine.<sup>3</sup> Recently the postcoronary bypass Cholesterol Lowering Atherosclerosis Study showed considerable regression of plaques (16·2 v 2·4%) and failure of progression or new formation when total cholesterol was lowered by 26%, low density lipoprotein cholesterol by 43%, and high

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density lipoprotein cholesterol elevated by 37% with colestipol and nicotinic acid.<sup>4</sup> Largely as a result of these studies a consensus was reached on new lower desirable levels to be applied uniformly at all ages.

### Finding the right treatment

The parallels with hypertension are obvious, in each case there being tens of millions of people suffering from mild deviations from normal who might benefit from treatment. Yet definite proof of the benefits of treatment is difficult to come by and may require many years of treatment, as shown in the Medical Research Council's trial for mild hypertension, and also in some of the lipid studies, where a reduction in unfavourable events was not necessarily accompanied by prolongation of life. Thus in the Helsinki heart study mortality was unchanged yet coronary events were reduced by one third when total and low density lipoprotein cholesterol were lowered by 8%.<sup>1</sup> Yet if the drugs used were to be entirely safe, which remains to be proven, and affordable, which at present they may not, the effect of a combination of lovastatin and resin that may reduce total cholesterol levels by as much as 60% could be spectacular. Remaining to be studied are the effects of raising high density lipoprotein cholesterol levels, lowering triglycerides (which were reduced by 35% in the Helsinki study), and perhaps altering platelet aggregation, not to speak of the need to perfect cheaper and more reliable ways of screening for abnormal lipid levels.

Also extending the parallel with hypertension is the availability of a first line of treatment, diet, that is simple and inexpensive and that in theory should work but in practice rarely does. Yet at a time when almost seven million Americans have symptoms of coronary heart disease, half a million die each year, and over 700 000 are admitted to hospital for myocardial infarction, the guidelines caused relatively little controversy. But some experts said that we should take cholesterol with a grain of salt, worry more about cigarettes, and appreciate that 36% of coronary deaths occur in people over the age of 80, in that sense being neither premature nor preventable. Even enthusiasts conceded that dietary treatment was unlikely to work short of an entire revolution in how Americans eat. It is particularly likely to fail in those people who have the highest cholesterol levels and are at greatest risk. Cynics thought that since we must die from something we might as well enjoy life. Some people worried about the dangers of giving drugs of unknown safety to millions of people, noting that the precursor of the present generation of drugs was carcinogenic. Someone saw yet another conspiracy by the pharmaceutical and industrial complex. And a noted cardiologist told the newspapers that we had been stampeded into hysteria about the alleged dangers of cholesterol.

### Medical effects of Black Monday

Another stampede occurred on Wall Street on 19 October, the notorious Black Monday, when stocks underwent what was variously described as a dive, a free fall, or a meltdown. Some people lost millions of dollars, a few lost everything; and there were wild scenes outside the New York Stock Exchange, people scurrying in all directions while an evangelist used his trumpet to remind the crowd that the true reward lay elsewhere. All categories of stocks were hit, including the drug manufacturers participating in the wars on cholesterol, on hypertension, on the acquired immune deficiency syndrome, on obesity, on unhappiness. Equanimity was notably lacking in Miami, where a greying, bespectacled man lost nearly \$15 million, \$4 million of his own and \$11 million borrowed ("margin") money. Yet he retained \$327.60 in ready cash, and, in what some regard as yet another indictment of Florida's new gun laws, bought a revolver and shot one of his stockbrokers, maimed another, and then took his own life.

Elsewhere, in Wisconsin, a retired businessman who lost \$500 000 asphyxiated himself after breaking a gas line in his house. There were no suicide leaps as in 1929, but psychiatrists reported increased depression, anxiety, phobias, feelings of helplessness, and

mental shock, especially among young affluent professionals who had not experienced earlier crashes and had not imagined that such things could happen. Some practitioners reported seeing more patients with psychosomatic complaints such as backaches and migraine, and there was increased attendance at some sexual dysfunction clinics. Although the stock market bounced back within a few days and devastated mainly those who had bought shares on margin, many others experienced portfolio losses ranging from 15 to 30%. Such losses, amounting to an aggregate loss of perhaps one trillion dollars could lead to belt tightening, decreased consumer spending, a recession, cost containment or higher taxes, and other visceral or psychosomatic manifestations.

So far the exact cause for the crash remains unclear. No doubt there will be even more papers about it than about lowering cholesterol. So far the prevailing wisdom is that congress should worry less about Humpty Dumpty and more about going on a diet and balance the budget. Some experts believe that we should redress the trade imbalance by sending more eggs and meat to our competitors abroad. Others blame the computers, those inhuman monsters that amplify normal price fluctuations by dumping large blocks of shares on the market when a predetermined price level is reached. But some observers noted that the crash occurred within days of the Soviet Union's rehabilitation of Nikolai Kondratiev, the legendary Russian economist who explained the changes in prices and interest rates in the Western world in terms of 60 to 70 year cycles—the Kondratiev waves. He at first pleased Joseph Stalin by predicting the crash and depression of the early 1930s, but he fell foul of the dictator's favour and was sent to his death in Siberia when the Western economy began to recover. Yet the theory of cycles transcends economics and also finds application in arts, politics, and morals. In medicine a 70 year long cycle might well lead to the prevailing medical advice being to clean your coronaries twice daily with intra-arterial floss, and fight cancer and senility by avoiding exercise, drinking brandy, and eating saturated jelly beans, red meat, and at least three eggs a day.

### References

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*Is amenorrhoea often a symptom of stress and if it occurs is explanation and reassurance the best treatment?*

Amenorrhoea may be primary (when menstruation has never occurred) or secondary. About 60% of cases of primary amenorrhoea result from developmental abnormalities of the ovaries or genital tract—the commonest being gonadal dysgenesis—and the other 40% from disorders that may also cause secondary amenorrhoea.<sup>1</sup> Some third of cases of secondary amenorrhoea are the result of weight loss and another one third of the polycystic ovary syndrome. About 10% of women have hyperprolactinaemia and another 10% have primary ovarian failure.<sup>1</sup> Yet another 10% have hypogonadotropic hypogonadism unrelated to a change in weight and in this group stress may be a cause. Before the patient can be reassured other causes of amenorrhoea should be ruled out. Pregnancy, weight loss, and signs of androgenisation should be excluded, serum concentrations of follicle stimulating hormone and prolactin measured, and thyroid function checked. If there are signs of oestrogen deficiency—such as vaginal dryness or a negative progesterone challenge test<sup>2</sup>—the woman may require hormone replacement, perhaps with an oral contraceptive. If there is no oestrogen deficiency and if pregnancy is not desired explanation and reassurance are adequate treatment but because menstruation may return spontaneously contraception—for example, with condoms—should be discussed.<sup>2</sup>—JAMES OWEN DRIFE, senior lecturer in obstetrics and gynaecology, Leicester.

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