

data, investigations into the physiology of non-exercise activity thermogenesis, together with the well known observation that children lose muscle tone when sitting in front of a television screen, further clarify why television is fattening our children.

Finally, Robinson and colleagues⁵ moved beyond mere correlational data when they undertook a randomised study to reduce television viewing in one of two schools. After 6 months, children in the intervention school had a lower BMI and behaved less violently during break times (as measured by videos taken in the schoolyard).

I declare that I have no conflict of interest.

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Could these be gallstones?

A 40-year-old woman was referred to the outpatient clinic with a 3-month history of recurrent severe right hypochondrial pain after fatty food. Abdominal ultrasound showed multiple 1–2 mm gallstones in the gallbladder.

She had recently followed a “liver cleansing” regime on the advice of a herbalist. This regime consisted of free intake of apple and vegetable juice until 1800 h, but no food, followed by the consumption of 600 mL of olive oil and 300 mL of lemon juice over several hours. This activity resulted in the pain-



Figure: Semi-solid green “stones” passed per rectum (top) and surgically removed cholesterol gallstones (bottom)

less passage of multiple semisolid green “stones” per rectum in the early hours of the next morning. She collected them, stored them in the freezer, and presented them in the clinic (figure).

Microscopic examination of our patient’s stones revealed that they lacked any crystalline structure, melted to an oily green liquid after 10 min at 40°C, and contained no cholesterol, bilirubin, or calcium by established wet chemical methods.¹ Traditional faecal fat extraction techniques² indicated that the stones contained fatty acids that required acid hydrolysis to give free fatty acids before extraction into ether. These fatty acids accounted for 75% of the original material.

Experimentation revealed that mixing equal volumes of oleic acid (the major component of olive oil) and lemon juice produced several semi solid white balls after the addition of a small volume of a potassium hydroxide solution. On air drying at room temperature, these balls became quite solid and hard.

We conclude, therefore, that these green “stones” resulted from the

action of gastric lipases on the simple and mixed triacylglycerols that make up olive oil, yielding long chain carboxylic acids (mainly oleic acid). This process was followed by saponification into large insoluble micelles of potassium carboxylates (lemon juice contains a high concentration of potassium) or “soap stones”. The cholesterol stones noted on ultrasound were removed by surgery (figure).

A search of the internet reveals many health websites promoting so-called “gall-bladder flushing” or “liver cleansing” regimes. Some quote a Correspondence letter published in *The Lancet*³ on the subject. The 1-day purge usually consists of an overnight fast, then eating apples in the morning, taking only herbal tea through the day, and then in the evening a warm mixture of olive oil (2/3 cup) and fresh lemon juice (1/3 cup). Patients are instructed to then lie on the right side (although some say the left). It is claimed that the next morning the gallstones will pass in the stool.

We have shown that these flushing regimes for expelling gallstones are a myth, and that the claims made by some are misleading. The appearance of a letter in an establishment journal has been used to legitimise this practice for some time and the record should now be set straight.

We declare that we have no conflict of interest.

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