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Letter from . . . Chicago

Killing the golfing goose

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Whatever one may think of lawyers in the context of malpractice (which probably is not very much), it is to their everlasting credit that the case of the murdered goose was settled out of court. For this regrettable incident, taking place not in the wilds of Georgia (unlike the attack on President Carter by a rabbit) but right on the Congressional golf course, almost precipitated an international crisis. Some 30 000 Iranian students threatened to demonstrate on the White House lawn. Mr Andrew Young nearly abandoned the Palestine cause for the anserine cause. Even the Euthanasia Society doubted that the doctor had merely acted out of mercy in putting the injured bird out of its misery. Environmentalists, while admitting that honking geese were a nuisance, thought that Concordes and noisy 'garbage trucks more seriously disturbed the golfers' concentration. The State Department worried that, since Canadian geese were protected under the Migratory Bird Treaty Act, bludgeoning the bird with a golf stick and wringing its neck could threaten relations with our Northern neighbour. And the anti-doctor lobby declared that a \$500 fine was no deterrent for future unnecessary operations of a similar kind.

Major and minor surgery

Yet killing geese out of season is merely one example of the recent spate of unusual operations. In Chicago a 29-year-old rock singer underwent plastic surgery to change his face into the likeness of the late Elvis Presley. Sex-change operations, though recently discontinued at Johns Hopkins, are still performed in other parts of the country. A strange young man used mirrors, retractors, and a perfect aseptic technique in an attempt to remove his adrenals, only two months after castrating

himself to control his sexual and aggressive feelings; he might have successfully finished the operation were it not for the pain caused by retracting the liver. In California, surgeons removed from a young woman a 91 kg benign ovarian tumour measuring 0.9 metres in diameter. But a cautious young navy doctor, who refused to go to sea because he felt unqualified to operate after only one year's training in surgery, was sentenced to six months hard labour and a substantial fine by a military judge; an American Medical Association study found that the incidence of unjustified surgery in the US was less than 1%, not 17% as reported; and the insurance companies hope to save millions of dollars by promoting ambulatory surgery instead of having patients admitted for myringotomy, tonsillectomy, dilatation and curettage, laparoscopy with tubal ligation, excision of breast masses, circumcision, herniorrhaphy, and vasectomy.

To turn now to major surgery, President Carter last year cut off six of his cabinet ministers, including Secretary of Health, Education, and Welfare (HEW) Joseph Califano, whom he replaced with Mrs Patricia Harris, a liberal lady who rather than fool around with dangerous cigarettes will merely address herself to larger social issues. Extending his operative field, the President then carried out his promise to the unions by amputating the E out of HEW and establishing a new cabinet-level department of education—thereby increasing the cost of government bureaucracy as well as injecting Federal politics into a function that was largely under State and municipal control. Congress joined in the surgical foray by again cutting funds for abortions, in the process holding up the pay of all its Federal employees. The government is also slicing at the budgets of the Veterans Administration hospitals; local councils are chopping at the budgets of the already perilously compromised municipal hospitals; Senator Edward Kennedy cut the Gordian knot and entered the Presidential race; and the Federal Trade Commission, still busily trying to obliterate differences between trades and professions by promoting competition, advertising, and other commercial practices, is now under criticism for excessive regulatory zeal and may have its wings clipped by Congressional legislation.

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On the much debated issue of medical costs, critics of the system never tire of pointing out that this nation's annual health care bill has risen to some 9% of the gross national product. From California, Governor Edmund Brown has called for a halt to the medical arms race. Yet the greatest waste takes place within government agencies: thus a reporter "spy" for the *Kansas City Times* found secretaries in the local HEW branch spending their time reading books, sitting around waiting for something to do, or training to fill out government forms—including forms for the training sessions. And when HEW hired a consulting firm for \$184 000 to determine why there was so much waste in the welfare system, it turned out that at least \$29 000 of the bill was fraudulent, with even the project director admitting that the project was meaningless. Yet the government, undeterred, is busily expanding its planning, auditing, and data-collecting activities; and in October the President signed a three-year extension of the present planning law, which hopes to reduce wasteful spending by helping a "voluntary discontinuance of unneeded hospital services or conversion to more appropriate uses"; meaning, perhaps, further facilities for the planners themselves.

In November, the House defeated by 234 to 166 votes the Administration's favourite hospital costs containment Bill, replacing it with an American Hospitals Association supported Bill endorsing voluntary control and establishing a commission to study and monitor such efforts. The Administration characterised the new proposal as a joke, a victory for the hospital lobby, and a blow to the fight against inflation, with its supporters pointing out that hospital costs are increasing by one million dollars every hour, that the rate of increase greatly exceeds that of the overall consumer price index, and that since the government provides 55% of the revenues it should do more than provide a blank cheque to the hospitals. Yet others contend that the government does not pay its fair share for its programmes; and, according to a recent Chicago study, the average daily hospital charge was \$279 for Medicare and Medicaid patients, \$389 for Blue Cross insurance, and \$462 for private patients, suggesting that the latter paid not only for themselves but also for the indigents. Meanwhile, the American Surgical Association is earnest about cost containment and wants surgeons to learn about the cost of tests and procedures, to discourage unreasonable fees, and to abide by accepted indications for standard operations. It also believes that self-defeating regulatory practices by government and insurance companies should be identified and changed, and that the public should be told about the limitations as well as the triumphs of modern medicine and surgery.

Hazards to health

From the halls of science comes the news that four of 720 laboratory rats developed cancer of the nasal passages from sniffing formaldehyde—used in toothpastes, mascara, and air-fresheners; in the manufacture of plywood; and in permanent press-clothing. Yet only those anatomy students who keep their noses too close to the grindstone may be expected to shed tears, the others being more likely to worry because carcinogenic nitrosamines have been found in six brands of Scotch—Chivas Regal, Black and White, J and B, Ballantine, Sandy Scott, and Cutty Sark—and 28 brands of beer, including Schlitz but not Guinness Stout. Even tea is dangerous unless milk is added to bind the tannins, and it may cause carcinoma of the oesophagus; lemon tea was recently found to dissolve plastic cups and release potentially carcinogenic polystyrenes; and herbal teas are no safer, for camomile may induce allergic reactions, comfrey damages the liver, and sassafras causes cancer in animals. The Food and Drug Administration (FDA) is worried about 4-ethoxy derivatives of m-phenylenediamine in hairsprays; but Dr Barclay of the *Journal of the American Medical Association* thinks that government agencies should stop worrying the public with misleading and inaccurate reports about substances causing

cancer; and the American Cancer Society believes that crying wolf too often is causing a loss of perspective about the number one carcinogen, the cigarette. Women have been warned against sitting too long in hot saunas or baths, at least during the first trimester of pregnancy; and the agriculture department wants schoolchildren to eat their taxpayer-subsidised spinach and has ruled that candies, cookies, soft drinks, and icecream (formerly called "junk food" but now redefined as food of "minimal nutritional value") may not be sold in schools until the last meal of the day has been served.

At the FDA a new commissioner, Jere Goyan, an activist pharmacist, has already discovered that Americans eat and drink too much and take too many pills; and wants to remedy the latter by having selfless pharmacists counsel their customers and even prescribe the drugs which they sell. He also hopes to protect the public by requiring that patient-information package inserts be provided with most prescription drugs, at a mere cost of \$90m a year, most of which will be passed on to the consumer. Meanwhile the Government Accounting Office has found that inefficient administrative practices within the FDA are delaying the approval of new drugs; and a witness recently told Congress that something must be wrong with a system that holds up life-saving drugs for 20 years before making them available to the practising physician. A new drug law, now under consideration by Congress, was meant to streamline the approval procedure, but provides for postmarketing surveillance, may allow the FDA to ban drugs already on the market, and may turn out to be even more oppressive than what we already have. And there has been much ado about the analgesic propoxyphene, which the consumer activists tried to banish but which bureaucrats merely reclassified as a narcotic.

At the medical schools the professors worry about the future of academic medicine, about reimbursement by Medicare for the services of their faculty members, and about the cuts in capitation grants and government loans for students—while their residents enthusiastically wedge balloon-catheters into the pulmonary vasculature at the slightest indication of a fall in blood pressure. The government has solved the problem of the foreign medical graduates by keeping them out of the country. The AMA and the colleges are still fighting the onslaught of the less scientific but more politically cunning chiropractors. A total of 3763 damage claims have been filed against the government by true or imagined victims of the swine flu vaccine, and other forms of vaccination are becoming unpopular. Sporadic forms of legionnaire's disease are being observed with increasing frequency, providing a justification for prescribing erythromycin in circumstances that formerly would have provoked howls of protest from the "infectious diseases mafia." Karen Ann Quinlan still lies in a coma in a nursing home; the dialogue about the care of the terminally ill patient continues; but the government is apparently encouraging people to enter hospital by short-sightedly refusing to pay for care in the home or a hospice.

Way of the world

Throughout the nation the crime rate remains high, thanks to the efficacy of the handgun lobby. At a recent nuclear medicine meeting in Atlanta a physician was shot to death, 12 were robbed, and several others were mugged. The hangman is here to stay; many states now have capital punishment; but a compassionate physician recommends a merciful injection of morphine in preference to electrocution or the gas chamber. The jails remain in a mess, and the AMA has called for a presidential commission to investigate medical care in correctional institutions. At least seven States have raised the legal drinking age to 21; the energy crisis has led to a more determined effort to enforce the 55 miles per hour speed limit, but has also resulted in more accidents from people riding mopeds. Meanwhile, husbands continue to beat their wives, wives their husbands, parents their children, and, occasionally, children their aged and helpless parents. But a good fight can help a marriage, writes an army chaplain, as long as

you don't call each other names, don't rake up old scores or arguments, don't zero in on vulnerable areas, don't play psychiatrist or drag in the rest of the family, don't shout threats, and don't use the silent treatment because this ends effective communication. Physical violence, however, can never be condoned, he says.

Finally, shades of Mr Hawkins Mumrath of Her Majesty's Bengal Civil Service, CBS News reports that ailing Mr Charlie Weldner recently woke up to find that he was dead, that his

social security payments had been cut off, that his wife and children were now receiving death benefits instead, and that since he was dead the government refused to pay for his doctors' and hospital bills. His lawyer (identified in the transcript as Yacavangelo [?]) and affectionately shortened to Yac) has had a difficult time proving that a fail-safe computer could make mistakes—which shows that the more things change the more they have remained the same since Kipling wrote about a similar incident some 80 years ago.

Lesson of the Week

Unrecognised dehydration during parenteral nutrition

R W G PRESCOTT, J C STODDART

Parenteral nutrition is now widely used and, although relatively safe, it has many potential hazards, some of which are not obvious.^{1,2} We report on three patients who showed a rise in serum sodium concentration and osmolality during parenteral nutrition that was not immediately explained.

Patients, method, and results

Three seriously ill men were in the intensive therapy unit. The first patient, aged 61, presented with acute anterior myocardial infarction, right-sided pneumothorax, tuberculous pneumonia, and undiagnosed diabetes mellitus. The second patient had peritonitis due to perforation of the caecum and aspiration pneumonia. No cause was found for the perforation either at operation or at necropsy. The third patient, aged 71, presented with haematemesis and bronchopneumonia that at operation were found to be caused by oesophagitis arising from a hiatus hernia. He also had a diverticular abscess, and he required gastroenterostomy, sigmoid colectomy, and colostomy.

Because of the duration of illness all three patients required nutritional support. None tolerated nasogastric feeding. Intravenous feeding was started by using a commercially prepared combination of 40% dextrose with electrolyte solution (Glucoplex) and a 10% amino-acid solution (Synthamin). One litre of each solution was infused concurrently for 16 hours. Other

Prepared solutions given for parenteral nutrition may cause hypernatraemia owing to inadequate water intake.

fluids were given as indicated by daily assessment during the remaining eight hours. The first patient also required intravenous insulin when dextrose was being infused.

The table shows the cumulative fluid and sodium balances over five days, the volume of Glucoplex given (always with the same volume of Synthamin), and serum sodium concentration and plasma osmolality on the first and fifth days of treatment. To estimate the values for osmolality the formula $2(\text{Na}) + 2(\text{K}) + \text{serum glucose} + \text{plasma urea}$ was used.

Discussion

Flear³ has stated that using hyperosmolar solutions does not lead to an appreciable change in plasma osmolality, and in general this has been our experience. This is most probably due to inadequate water replacement so that, as usually is the case, the hypernatraemia implied that the patients were dehydrated. Glucoplex has a fractional water content of 0.764 g/ml of solution and an osmolality of 3125 mmol/kg (3125 mosmol/kg) water (the corresponding values for Synthamin are 0.898 and 1204). The fluid balance shown in the table was measured over five days. The corrected fluid balances take account of the fractional water content of the solutions used. Considerably less water was given than was thought and, taking insensible losses into account, the fluid replacement was inadequate.

It is not widely known that as little as three-quarters of a given volume of some solutions used in parenteral nutrition is available as water and that an adequate amount of solute-free water must be given with them.

Cumulative fluid and sodium balances, Glucoplex volume, serum sodium concentration, and plasma osmolality in three patients over five days

| Case No | Fluid balance* (ml) | Corrected fluid balance* (ml) | Sodium balance* (mmol) | Volume of Glucoplex* (ml) | Serum sodium (mmol/l) | | Plasma osmolality (mmol/kg H ₂ O) | |
|---------|---------------------|-------------------------------|------------------------|---------------------------|-----------------------|-------|--|-------|
| | | | | | Day 1 | Day 5 | Day 1 | Day 5 |
| 1 | +3120 | +1854 | -374 | 4000 | 133 | 150 | 318 | 347 |
| 2 | +1050 | -306 | +596 | 4000 | 146 | 158 | 323† | 366† |
| 3 | +1550 | +553 | -200 | 3000 | 140 | 156 | 316† | 367 |

*Cumulative results over five days.

†Estimated value.

Conversion: SI to traditional units—Plasma osmolality: 1 mmol/kg = 1 mosmol/kg.

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