term, low-dose suppressive treatment is indicated. This is best achieved by using drugs that are absorbed in the small intestine—for example, nitrofurantoin, 50 mg nightly—or very low doses of penicillins or cephalosporins—for instance, cephalexin, 62.5 mg nightly. Alternatively, drugs to which resistance of the bacterial flora of the bowel does not develop may be used—for example, hexamine mandelate, 1 g nightly. These drugs are best given at bedtime to prevent multiplication of bacteria in the stagnant bladder urine during this most vulnerable period.

Symptomatic reinfections are more widely spaced. They are best dealt with by providing the patients with a course of antibacterial drugs to be taken at the first sign of infection and with dipslides to be inoculated and sent to the laboratory. In this way morbidity is minimised yet bacteriological control is maintained.

TREATMENT OF PATIENTS WITHOUT BACTERIURIA

Treatment of patients without bacteriuria is the most difficult problem of all. The general measures outlined earlier should be put into operation. When symptoms are precipitated by sexual intercourse a trial of a single dose of an antibacterial agent—for example, one tablet or drapsule of co-trimoxazole—to be taken after intercourse is worth while since it is followed in some women by transient bacteriuria. Because concrete evidence of this is usually difficult to obtain, a therapeutic trial seems war-

TABLE II—*Causes of relapsing urinary tract infection*

Cause of relapse	Remedial action
Wrong choice of drug	When treatment is started before antibiotic sensitivity of pathogen is known choose drug on "best guess" principle after consultation with local bacteriologist
Inadequate duration of treatment	A 7-day course of treatment should be used—if compliance is likely to be poor use long-acting drug
Emergence of minority resistant strain	Retreat
Inadequate concentration of drug at site of infection	Use high-dose treatment
Stones	Removal of stones

ranted. But antibacterial agents should not be used in any other circumstances. If symptoms remain after correction of precipitating factors a trial of urinary alkalinisation with potassium citrate is worth while; the patient must be provided with litmus paper to ensure that alkalinisation is adequate. Until the pathogenesis of the syndrome is better understood, however, we are unfortunately left with some women in whom the symptoms persist.

Reference

- ¹ *British Medical Journal*, 1977, 1, 1332.

Letter from . . . New Zealand

Confusion about abortion

RICHARD SMITH

British Medical Journal, 1978, 1, 1533-1534

In Britain there have been moves to limit the availability of abortion. In New Zealand they have already done this. Or have they? On 13 December last year, in the summer heat just before Parliament closed for the combined Christmas and summer holiday, "with breathtaking speed" (and almost unexpectedly) a new abortion law was passed in the small hours of the morning. It seemed to be a triumph for the anti-abortionists. It changed the process for obtaining an abortion and the grounds on which one could legally be performed. Under the new Act an abortion can be performed only in a pregnancy of under 20 weeks' gestation if "the continuance of the pregnancy could result in serious danger (not being danger normally attendant upon childbirth) to the life, or to the physical or mental health, of the woman or girl, and that the danger cannot be averted by any other means."

Incest and subnormality of the mother are specific grounds for abortion, but rape, the age of the mother, and fetal abnormality are not. Abortion was also redefined in the Act, and it seemed that, as a consequence, IUDs and menstrual extraction

both became illegal. J D Sinclair, professor of physiology at Auckland Medical School, somewhat lightheartedly illustrated the law as it was generally understood thus: "It will be illegal for a doctor to induce an abortion in a 55-year-old penniless spinster suffering from heart disease and bearing a mongol fetus resulting from rape. Her cardiac disease can be alleviated by bypass surgery; the renal complications can be treated by weekly dialysis; and the pulmonary complications by use of a respirator."

Into battle

In New Zealand, as elsewhere, abortion has long been an emotive and controversial issue. There are familiar battlelines of feminists (poorly organised and weak in New Zealand) versus the Catholic Church, which is also not numerically strong here. The anti-abortionists are well organised under the banner of the curiously named SPUC (everybody, including the members, pronounce the word to rhyme with that well-known Anglo-Saxon word, and usually with the same venom)—the Society for the Protection of the Unborn Child, or, as anti-abortionists have it, the Society for the Propagation of Unwanted Children. After the passage of the Act, SPUC greeted the new law as a major step forward in the fight for decency, while the Nurses Society of New Zealand called it "one of the most oppressive laws in the world." Most doctors were against the law. The president of the Auckland Obstetricians and Gynaecologists

Auckland Hospital, Auckland N2, New Zealand
RICHARD SMITH BSC, MB, house surgeon

Association said it returned the state of affairs "to the early 1900s," while the president of the New Zealand Psychological Society described the law as "the most inhumane piece of legislation in living memory." Much of the protest was centred on the fact that fetal abnormality—either proved through amniocentesis, or suspected because of rubella infection in the mother—no longer seemed to be an acceptable reason for terminating pregnancy. The Prime Minister, Robert Muldoon, obviously thought so too and promised special facilities for handicapped children and their parents.

Within a week of the passage of the Act (which does not take effect until 1 April this year) the Auckland Medical Aid Centre Abortion Clinic closed its doors, because, they said, changes in the Crime Act seemed to imply that grounds on which they were performing abortions were now illegal, and that doctors might face 15-year prison sentences. Others, including the Prime Minister, have interpreted the move as a protest. On their last night the entire staff of the clinic were furiously aborting until midnight. Some 100 women were booked in for the following week. Suddenly their only options were to continue with their pregnancy or hurriedly arrange abortions in Australia, at about \$NZ500 (almost £300) as opposed to \$NZ80 at the Auckland clinic. Several women's organisations have arranged to help women travel to Australia to be aborted, and within a week the first had left. Meanwhile, in Wellington, doctors continued to perform abortions on the same grounds as before.

Wheels of bureaucracy

One of the major effects of the new law is to change the process whereby application for abortion is made. Now a woman must first approach her GP, who must find a gynaecologist willing to carry out the abortion—if it is permitted by two "certifying consultants," who are specially appointed and one of

whom must be a practising gynaecologist. The whole process is overseen by a supervisory committee of three that has already been appointed. It has been estimated that the process will take between three and six weeks. At the moment the supervisory committee is attempting to appoint the certifying consultants, but this is proving difficult, because many doctors do not want to be concerned with such a cumbersome procedure, and because many are not eligible. Under the new law a certifying consultant must not hold an extreme view on abortion. Extreme views are defined, firstly, as believing that an abortion should never be performed on any grounds, or, conversely, that the question of whether or not to abort is a matter for a woman and her doctor alone to decide. The department of community health at Auckland University has conducted a survey among all doctors in New Zealand, and established that 3.7% fall into the first category and 49.8% into the latter "too liberal" category; thus over half New Zealand's doctors are not eligible.

At the moment, as in so much human activity, confusion reigns supreme. Soon after the law was passed—greeted by some, and deplored by others—the Minister of Justice announced in a major speech that in his opinion the law was virtually unchanged. Later still, the Prime Minister said that fetal abnormality still gave grounds for abortion in so far as it would result in serious damage to the mental health of the mother. An Auckland gynaecologist, Dr I W Barrowclough, has said, "I may not agree with the law but I am not prepared to break it . . . and when there is doubt over what the law itself means, I will not take the risk of acting on my interpretation of it." So, whether the law has changed much or not, it has certainly had the effect of greatly reducing the number of abortions performed—in Auckland in particular, and New Zealand in general. As I write, the circle of confusion is completed, as the medical superintendent of the Auckland Hospital has announced that, after several weeks' painstaking deliberation, his opinion is that the new abortion law is in fact more liberal than the old.

At a recent lecture on immunisation the speaker advised that it was safe to immunise a child against whooping cough whose brother had had epilepsy but not safe if either of the child's parents had a history of epilepsy. Why is this so?

A case has been defined for regarding children in whom there is a family history of convulsions in first-degree relatives as being unsuitable for immunisation with pertussis antigen. Therefore if they receive a combined vaccine containing diphtheria and tetanus toxoids pertussis should not be included. The case is based on sensible clinical evidence, and it is probably not appropriate to draw a distinction between epilepsy in a parent or sibling, unless the brother's fits result from an intercurrent illness that has caused brain damage. Thus a brother who was previously well and who had had epilepsy after bacterial meningitis would not provide evidence of a tendency to convulsions on a basis of genetically influenced vulnerability. The same argument might be applied to a parent who had had a discernible illness or injury leaving epilepsy as a sequel, but where a parent's history of epilepsy begins in early life it may be hard to establish the facts that relate to an aetiology.

Kullenkampff, *et al*, *Archives of Disease in Childhood*, 1974, 49, 46.

What is the prognosis for a woman in her 60s who developed auricular fibrillation after a severe attack of bronchitis? Fibrillation is now controlled by digitalis. She has no other symptoms, is not hypertensive, and the electrocardiogram has not shown any valvular diseases or ischaemia.

Atrial fibrillation during acute infection may be toxic, in which case normal rhythm should be re-established as soon as the infection is overcome. If this has not happened another cause is likely. Any person with unexplained persistent atrial fibrillation should have a free-thyroxine index estimated to exclude thyrotoxicosis. Atrial fibrillation of ischaemic origin is more likely, however, in a woman of 60. A normal ECG does not exclude this.

As the atrial fibrillation is controlled by digoxin, it is not of itself serious. In many elderly patients with atrial fibrillation and slow ventricular rates digoxin is probably unnecessary. Rapid atrial fibrillation reduces cardiac output by about 25%, but, once controlled, it is of little importance in itself in an elderly person. The prognosis is likely to be determined by the underlying ischaemic heart disease rather than by the atrial fibrillation itself.

Since 1958 effective vaccines against leukaemia in mice and cats have been produced. In view of this, has the incidence of cancer in patients who have been cured of skin cancer ever been studied for comparison with the incidence in a similar number of controls?

It is not generally true that vaccines effective against leukaemia in mice and cats have been produced. Where a type of cancer is due to a specific virus, it may be possible to immunise an otherwise susceptible animal to the cancer-producing effects of that virus. Moreover, since tumours induced by the same virus consist of cells that exhibit similar virus-determined tumour antigens on their surfaces, specific immunotherapeutic procedures can be envisaged and successful treatment for one virus-induced tumour might indeed be followed by immunity to the development of further tumours due to the same virus. Cancers due to ionising radiation or chemical agents, on the other hand, rarely share common tumour antigens, and in the case of these agents one could not expect successful treatment for one cancer to confer immunity against the development of a second cancer. There are, in fact, plenty of examples of multiple cancers arising sequentially in individuals exposed, for instance, to sunlight (cancers of the skin) or β -naphthylamine (cancers of the urinary bladder). According to Holmes *et al*¹ men cured of scrotal cancer due to occupational exposure to mineral oils are at higher risk of developing cancers of the digestive and respiratory tracts than control subjects.

¹ Holmes, J G, *et al*, *Lancet*, 1970, 2, 214.