pain, gave increasing doses of morphine to a moribund patient, he knew that the patient would die from respiratory failure. Technically, therefore, he was guilty of murder. With advances in medicine, however, potent analgesics might be found which did not depress respiration. If, then, a doctor gave increasing doses of morphine to a patient with an incurable or terminal illness, he was open to prosecution and possibly a prison sentence. Under these circumstances doctors might want euthanasia legalized. Professor Williams agreed that patients who were severely ill, or in acute pain or discomfort, and who were unlikely to recover, should be offered euthanasia.

Legislation could be introduced for a short period only in order to assess its effects. Safeguards, however, would be necessary, since old people who were a burden to others might be induced to sign away their lives, or a patient who gave consent might not

have been of sound mind at the time. Forgery and coercion were also possible.

Discussion

In the discussion that followed, Professor J. M. HINTON (London) pointed out that it was difficult to know the real wish of a dying patient as regards euthanasia. Many would change their minds from time to time according to how they felt and the distress they suffered. Dame ALBERTINE WINNER (London), working in a hospital for incurables, said that patients rarely asked for euthanasia, and nor did their relatives. Moreover, incurable and pain-racked patients were often happier than they seemed, commented Professor E. STENGEL (Sheffield). On the other hand, it was the relatives and doctors who were distressed. Having given consent for euthanasia a patient might change his mind, as frequently happened with those about to commit suicide.

Sir JOHN RICHARDSON (London) pointed out that it was even difficult for people in good health to make up their mind on the advisability or not of euthanasia. In his experience very few incurable patients, when expertly managed, asked for euthanasia. Some patients who had been unconscious for months had recovered to live useful lives; yet they might have been needlessly disposed of.

Dr. M. H. PAPPWORTH (London) doubted whether irreversible brain damage could be diagnosed with certainty, especially as recent work had cast doubt on diagnosis from the electroencephalogram. Professor Sir GEOFFREY ORGANE (London) was certain that anaesthetists would not carry out or supervise euthanasia, even if this were legalized. Closing the discussion, Professor Williams put forward the view that legislation was needed to protect doctors who advised euthanasia or who participated in it.

NEW APPLIANCES

New Device for Control of Female Urinary Incontinence

Dr. RICHARD DE SOLDENHOFF, consultant gynaecologist, Northern Ayrshire Hospitals, and Dr. HARRY McDONNELL, general practitioner, West Kilbride, Ayrshire, write: Stress incontinence in women is common, though accurate data on its incidence in all age groups have yet to be assessed. It is interesting to note, however, that in a sample of 1,327 young nulliparous women Nemir and Middleton (1954) found that 52.4% experienced some degree of urinary incontinence. Many reports have been published on the conditions predisposing to incontinence and their management, and work continues on the underlying mechanics of the disorder (Vincent, 1959). We have concerned ourselves with the actual treatment of the stress incontinence in women socially, physically, and emotionally affected by it.

Having in mind the beneficial effect produced by faradic stimulation, perineal exercise, etc., we devised a simple electrode-bearing pessary which could be worn vaginally and which is connected to a transistorized

generator worn at the waist (Fig. 1). The size of the pessary is similar to that of the ordinary tampon used by women at the menses. We decided on this because we felt that it could be readily introduced by all patients. The generator (Fig. 2) is powered

an undergarment. Initially the control knob is turned to the half-way mark and then adjusted according to the individual needs of each patient to gain urinary control. Patients can actually feel the contraction of the perineal muscles, and if the current is too high this can be painful until the knob is turned down.

Continuous usage of the device through the day was recommended, though it has been found that its use while asleep at night is perfectly adequate, and more acceptable to some. A percentage of patients found difficulty in retaining the pessary while ambulant, but this was overcome with the help of a sanitary pad.

RESULTS

In our present series 28 cases have been evaluated, each patient using the device for an average of two to three months. Twenty-one of these patients had varying degrees of cystocele, rectocele, and uterine prolapse. Of the 28 cases, 23 have been judged as being controlled or cured to date—that is, some two years after the start of our work; one improved for six weeks and then had a recurrence of her symptoms, so a pelvic floor repair was carried out; and in three cases there was no appreciable improvement, all three requiring surgical repairs. The remaining case, a 19-year-old enuretic girl, received no benefit.

We consider that this mode of treatment constitutes an advance on the management of stress incontinence in women.

We are now proceeding to enlarge the series and to analyse the types of patient whose incontinence will be preferentially controllable in this manner.

We wish to thank Vitalograph Ltd., of Maids Moreton, Buckingham, for making the devices to our specification, further supplies of which are obtainable from them.

REFERENCES

- Nemir, A., and Middleton, R. P. (1954), *American Journal of Obstetrics and Gynecology*, **68**, 1166.
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FIG. 1.—Electrode pessary in situ.

FIG. 2.—Circuit diagram of pulse generator.

by a 9-volt battery and was designed to give the following output: pulse amplitude 8.5 volts, pulse width about 0.2 milliseconds, and pulse rate about 120/second. It was noted, however, that as the battery voltage falls the pulse rate and width increase. The expected life of the battery used continuously is about five and a half weeks, used 12 hours a day about 10 weeks, and used 6 hours a day about 13½ weeks.

The patient is instructed to insert the electrode pessary as she would a tampon, and to connect it up to the generator box by the connecting lead. She then attaches the latter to a tape round her waist or to