Drug Treatment of Disease

DRUGS IN THE TREATMENT OF OLD PEOPLE

BY

MARJORY WARREN, C.B.E., M.R.C.S., L.R.C.P.

Consultant Physician, Geriatric Unit, West Middlesex Hospital, Isleworth, Middlesex

Experimental Prescribing

Drug therapy has changed considerably during this century, and now it is possible to treat with drugs much more extensively and *more accurately* when a precise diagnosis has been established and a careful choice of drugs has been made.

To-day much more research is being undertaken into the physiological action and pharmacological properties of new drugs, and the advantages of such research are obvious. There are some disadvantages, however, in the spate of new drugs (often expensively and attractively advertised) which flood the market, and which the average doctor has too little time to study in detail.

This applies particularly to drugs advertised for the use of "geriatric patients." The field of geriatric medicine has of recent years come more to the fore, and, unless due care is taken in the choice of drugs, many old patients with conditions which cannot be cured may be allowed or even encouraged to become a "profitable" group for experimental prescribing. The temptation to use new drugs in these cases is especially great when an elderly patient is suffering from a long-standing clinical condition for which there is no known cure.

In trying new drugs advertised as useful for "geriatric patients" some care should be exercised in finding out the precise use of these new preparations.

Ideally new drugs should be submitted to carefully controlled clinical tests, so that their advantages, if any, can be assessed and compared with the older drugs given for the same condition. Some thought should also be given to avoiding the use of an expensive proprietary drug if there is a cheaper and equally useful preparation in the *British National Formulary*. This is especially important when prescribing for long-term disease, which characterizes so many of the clinical conditions found in older patients.

In treating old people almost the whole range of medical conditions may be encountered, and it is indeed commoner to find that several conditions co-exist than that there is only one. It is therefore often necessary to prescribe for more than one disease at a time. Classical disease in the old usually responds well to orthodox therapy, but it is always advisable to treat early and actively because the multiplicity of pathological conditions and a lowered level of reserve often make delay dangerous and success less likely. This is particularly important when the untreated condition tends to immobilize the patient—as, for example, when an elderly patient with a cardiac failure becomes immobilized and later bedridden by his oedema. In such cases prompt treatment with digitalis or diuretics or both relieves the discomfort and avoids such sequelae.

Accurate Diagnosis

The commonest symptoms for which elderly patients seek relief and advice include: pain and discomfort;

giddiness with falls; weakness; shortness of breath; cough; inability to sleep; frequency of micturition; constipation; impairment of vision or hearing or both.

The commonest conditions for which elderly patients are brought to a doctor include: unsteadiness in getting about, with falls; loss of independence; weakness; mental confusion; incontinence of urine; diarrhoea, which on examination is not infrequently found to be retention of faeces with overflow.

The commonest conditions found on clinical examination of elderly patients include: cardiovascular disorders; cerebrovascular accidents; Parkinson's disease; arthritis; anaemia; respiratory infection; urinary infection; diabetes; malignant disease; renal failure with uraemia; myxoedema; ulcerated legs.

A glance at these lists suggests the great need for an accurate diagnosis before drug therapy is started, if failures are to be avoided. It is rarely necessary to prescribe a cough mixture to an older person to-day, as the commonest causes of cough are: heart failure, when digitalis and diuretics will be more effective; and a chest infection, which usually responds well to the appropriate antibiotic. In using mercurial diuretics the frequency of renal failure in the old should be remembered.

Analgesics

Aches and pains and discomforts of one sort and another are frequent concomitants of old age, and so requests for analgesics and sedatives are frequent. Seldom can pain be relieved specifically; hence the drugs prescribed may be needed for long periods, during which time the patient may become resistant to the drug with resultant lessening of effect. For this reason the physician must prescribe in such a way that he can increase and vary the drugs as the condition progresses and so continue to keep the patient comfortable. Pain may result from many different conditions, including the following.

Malignant Disease

In the early stages aspirin, or aspirin, phenacetin, and codeine, or compound codeine tablets, 1 tablet to be taken when needed and the dose later increased to several times daily, will be sufficient. Later such tablets can be prescribed six-hourly or four-hourly and/or in increased numbers. All these tablets should be crushed and taken in water to avoid irritation of the gastric mucosa. Later still pethidine in small doses, 25 mg. p.r.n., can be given in combination with the simpler analgesics already described. Finally, the dose of pethidine can be increased gradually to 50 mg. to 75 mg., to 100 mg. when needed, to six-hourly, to four-hourly. At the same time more specific treatment should not be omitted.

An old man complaining of "lumbago" or pain in his back, especially if he has some urinary symptoms, should be suspected of a carcinoma of the prostate. If this condition is established it should be treated with oestrogens—the commonest and most popular being

stilboestrol. With this therapy little in the way of analgesics is required—but the patient should be warned of possible side-effects. Similarly in the female, pain from an inoperable carcinoma of the breast may be controlled, at least in part, by oestrogens, but such treatment may have to be stopped if uterine haemorrhage occurs. In other cases testosterone propionate, 100 mg. weekly, may be the preparation of choice, and this is especially good in cases with bony metastases.

With inoperable lesions of the alimentary tract the addition of tincture of belladonna, 10 minims (0.6 ml.) in a mixture three times a day often relieves the muscle spasm associated with the neoplasm and delays the need for more than simple analgesics.

In the early stages of malignant disease in old people, if the drug treatment is good, then it is rare that morphine will be needed to keep the patient comfortable.

Coronary Artery Disease

Although coronary artery disease in the elderly often occurs without the initial pain which characterizes the disease in younger persons, yet when it is diagnosed morphine gr. $\frac{1}{8}$ (8 mg.), which may be repeated later if pain or restlessness is present, and a slow intravenous injection of aminophylline 0.25 g. in 10 ml., should be given without delay. The advisability of giving anticoagulants in the old is debatable—but prompt treatment as above is very desirable.

Peripheral Vascular Disease

This condition is commonly found in elderly patients, and pain is often the presenting symptom. In addition to simple analgesics such as aspirin, A.P.C., codein. co., and paracetamol, one of the vasodilators should be tried, and, if tolerated, given in increasing doses. There has been a good deal of discussion about the usefulness of such drugs, yet from a practical point of view experience shows that not only do patients get relief of pain but also that improvement in the peripheral circulation occurs as demonstrated by the colour and temperature of the part affected (usually part of the lower limb).

It should be remembered that some patients experience uncomfortable side-effects described by them as a "sinking feeling," "fullness in the chest," and nausea. These are probably due to a stimulation of excessive gastric juice, and due care must be exercised in the use of such drugs in patients who may have a gastric ulcer.

The vasodilator of choice is probably tolazoline ("priscol"), and doses found useful are as follows: 25 mg. first day, 25 mg. b.d. for two days, 25 mg. t.d.s. for three days, 25 mg. q.i.d., 50 mg. b.d., etc., to a maximum dose in some cases of 100 mg. q.i.d.

Arthritis

The pain associated with arthritis includes that due to rheumatoid arthritis, to degenerative joint disease (osteoarthritis), and to a combination of both, and is one of the most difficult types to control. Pain can be persistent in spite of analgesics—indeed, overdoses of aspirin are not uncommonly found in patients who have still failed to overcome their pain. As described above, simple analgesics should be given in small doses, varied, and not more often than is needed. In spite of all such precautions, however, difficulties will still be experienced in controlling the pain. For rheumatoid arthritis corticosteroids may be given in short courses with very gratifying results.

Cramps

Old people often complain much of discomfort associated with "cramp," usually in the lower limbs. This may be due to cold, and if so can easily be remedied, but that due to pathological conditions is often difficult to control. Peripheral vascular disease is one cause, and this can be most effectively treated with tolazoline, as already described.

Cramp due to spasticity of muscle with irregular contractions, often found in patients with disseminated sclerosis, is very resistant to treatment, and trial and error with so-called "muscle relaxants" may be the only treatment possible.

In some patients clinical examination reveals no specific cause for the condition, and in these cases of unknown aetiology the cramp may be improved with large doses of vitamin B₁, 25 to 100 mg. t.d.s., and in addition quinine sulphate, 2 gr. (130 mg.) at night is worth a trial.

Osteoporosis

This is a common cause of backache in old people, and is best relieved by a combination of hormones, calcium, and diet.

Paget's Disease of Bone

This condition, which must be differentiated from osteoporosis, calls for no specific treatment. The intelligent and careful use of various analgesics in small doses gives the best results.

Sedatives

This group of drugs is more in danger of abuse than any other. Many of the conditions found among elderly patients lend themselves to such abuse, and equally are brought about by overdosage.

Sleeplessness

Old people living alone often sleep for short periods during the day; these in the aggregate may be many hours, but they do not satisfy the desire to sleep and interfere with unbroken sleep at night. On the whole, the old need less sleep than the young, and so, unless there is some very good reason to prescribe sedatives in such cases, it is wrong to do so.

Night sedation often results in night incontinence and tends to drowsiness by day and so indirectly to dehydration and uraemia, especially in patients who already have some renal failure.

In the writer's experience, too, many elderly patients who have slept well for many weeks in hospital without drugs fall a prey to night sedation as soon as they return home. Simple remedies, other than drugs, should always be given a trial first.

Sleeplessness with Mental Disturbance

There are times when a patient who becomes mentally confused at night and rather overstimulated may need sedation, and then the time for giving the drug and the dose are equally important. When the regular pattern of disturbance is known, it is wise to prepare the patient by giving an early dose of the drug of choice.

For example, if an old person is known to become restless and confused at 10 p.m., then it may be wise to give sedation earlier at 8 p.m. and repeat the dose once later. In spite of the enormous list of new drugs from which to choose, the value of many is still unproved, and, until fully controlled clinical tests have been undertaken, there is no great merit in using these newer, but

still experimental, preparations. Hence for many chlorpromazine hydrochloride ("largactil") seems, in spite of the known possible side-effects on the liver, to be a safe and reliable drug and the one of choice. Many slightly restless and confused patients settle well on a single dose of 25 mg. or 50 mg. given at bed-time, or given in a repeated dose 25 mg. + 25 mg. as already described.

Other reliable and safe drugs are chloral hydrate 20 gr. (1.3 g.), which in many cases is very effective, and paraldehyde. This latter, though very safe, should be avoided as often as possible, because the characteristic smell and taste linger and sometimes add to the patient's delusions that of poisoning.

In principle, too, barbiturates should be given only for short periods, as accumulation of these drugs tends to produce confusion. In some instances, however, the short-acting drugs have their uses for patients who are temporarily inclined to wander at night, especially when in unfamiliar surroundings. Minimum doses should always be tried first.

Sleeplessness with Pain

When pain is the cause of lack of sleep, it should be treated primarily and the patient receive minimal added sedation. It cannot be too frequently stated that the prescription of night sedation, without differentiation between the various factors responsible, must be regarded as *undertreatment*, and this applies equally at home and in hospital. With adequate personal care and attention drugs can be reduced to a minimum, with great advantage to the patient.

Tranquillizers

Tranquillizers are closely allied to sedatives, but usually have less hypnotic effect; they are aimed at relaxing tense and anxious psychoneurotic patients. These drugs are useful in treating elderly patients with early mental changes and are often effective in controlling behaviour, so that an old person can remain living in normal surroundings.

Before any pronouncement can be made on the choice of such drugs, more clinical tests must be undertaken.

Cardiac Conditions

For old people with gross cardiac failure and without renal failure, the most effective diuretic is mersalyl, 2 ml., given by intramuscular injection, which may be needed daily for some days initially; and later on once or twice weekly. In obstinate cases non-mercurial diuretics such as hydrochlorothiazide may be combined with mersalyl, and in mild cases hydrochlorothiazide may be given alone four or five days weekly. If an elderly patient is not reliable and diuretics are essential, it may be wiser to arrange for injections of mersalyl to be given.

Infections

The whole range of antibiotics are much used and are invaluable in the treatment of old people, especially for pulmonary and urinary infections. Whenever possible, sensitivity tests should be undertaken, so that the therapy is specific, as this gives better results and avoids waste. In treating pulmonary infections the use of aminophylline as a respiratory stimulant is often advisable.

Diabetes

This is a rather different disease in old people. In many instances it is mild, requiring attention to diet

only, and the patient needs no drug therapy. In other cases the disease is difficult to control and calls for a careful watch on dosage of antidiabetic therapy.

If insulin is used, a dose should be determined so that one early-morning injection only is sufficient. This is especially important for old people, because few can give injections to themselves. The use of oral antidiabetic drugs has solved some of these problems, but if an old person is forgetful or is considered unreliable in taking them, then insulin by injection may be considered the preparation of choice.

Parkinson's Disease

Patients with Parkinsonian rigidity benefit from one of the antispasmodic drugs. The commonest drug used to-day is probably benzhexol ("artane," "pipanol"), which should be started in small doses, because of the tendency to mental confusion as a side-effect. The drug is supplied in 2-mg. and 5-mg. tablets, and should be prescribed conveniently so as to avoid the necessity of cutting the tablets. It is recommended than benzhexol should be given in very slowly increasing doses starting with 1 mg. ($\frac{1}{2}$ tablet daily), to 2 mg. daily, to the same dose b.d., t.d.s., q.i.d., then 5 mg. b.d., t.d.s., and so on until the optimum dose is determined. If the patient becomes, at any stage, mentally confused, the dose should be reduced, and the patient should *not* be sedated, as this may increase the confusion. Benzhexol is of no value in treating Parkinsonian tremor.

Blood Diseases

Routine blood examinations reveal a surprising number of macrocytic anaemias and even some leukaemias in addition to the commoner iron-deficiency anaemia. In all cases, therefore, when anaemia is suspected, a blood examination should be made, including film. Treatment with vitamin B₁₂ and/or folic acid before an accurate diagnosis has been made may well spoil the chance of making a correct assessment later.

Anticoagulants

The use of anticoagulants in the treatment of elderly patients is a highly controversial subject and will not be discussed here. Suffice it to say that if or when anticoagulants are used, then the procedure is exactly as with other patients, though haemorrhage is a little more apt to occur in old and arteriosclerotic patients.

Ulcerated Legs

Treatments for ulceration of the legs are as numerous as the staff treating them; and probably equal success may be obtained by many and various methods. But whatever applications are used, there is a strong argument for firm supporting bandages—with at times pressure pads—and infrequent dressings—that is, weekly or fortnightly.

Other points worthy of consideration are (1) the presence of oedema, which retards healing and which should be treated at the same time, and (2) the so-called ulcer which is in fact an infected bleb caused by oedema, often part of a congestive cardiac failure. Such "ulcers" usually heal spontaneously if the cardiac failure is adequately treated.

Constipation

Many old people are inclined to develop a "bowel complex," and they should be advised not to worry

unduly if there is not a daily bowel action. When constipation is present (and the presenting symptom may be alleged diarrhoea due to retention of faeces with overflow), the regular use of roughage in the diet and sufficient fluid intake should not be overlooked in giving advice on the subject.

In choosing an aperient it is wise to consult the patient, as many know what suits them best and may be very sensitive to dosage.

In addition to senna, cascara, and saline aperients, which form a good basis for treatment, two other preparations may prove useful: (1) methyl cellulose, which acts by increasing the bulk of the faeces and so stimulating peristalsis; and (2) dioctyl sodium sulphosuccinate ("dioctyl-medo"), a drug which acts by penetrating and making the faeces flocculent—a useful treatment for impacted faeces.

In combination with aperients or as an alternative many elderly patients favour the use of suppositories. Enemata should not normally be needed except for an emergency and for patients who are permanently incontinent of faeces.

Anorexia

This may be due to many conditions, physical or psychological or both, and is often associated with loss of morale or even with the presence of mild depression. Morale is essential to good health in elderly patients, and diet normally plays an important part in maintaining a sense of well-being.

Consequently, when there is loss of appetite, all factors likely to be responsible should be considered, and prescribing bitters or tonics to improve the appetite may be found appropriate.

Conclusion

In treating old people the following principles must be remembered:

1. Drug therapy should be as "streamlined" as possible, limited to the fewest drugs and ordered in the simplest way.

2. Treatment should be adequate and given with as little delay as possible.

3. Psychologically it is always better to avoid injections if oral preparations are satisfactory, as patients quickly become dependent upon the "prick."

4. The frailties of old people should be considered in the following ways and special precautions taken when prescribing for them:

- (a) Be sure that an elderly patient has heard and understood instructions.

- (b) Warn the patient of possible side-effects, and advise him what to do if these occur.

- (c) Be sure that eyesight is good enough to read the directions.

5. Ascertain that the patient is mentally reliable to take what has been prescribed, and that he understands the importance of doing so.

6. Arrange that he is able to reach the surgery or hospital when his drugs are finished, or alternatively that he has someone interested who will.

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A VISIT TO THE U.S.A.

BY

J. O. F. DAVIES, M.D., D.P.H.

Senior Administrative Medical Officer,
Oxford Regional Hospital Board

The purpose of my visit to the U.S.A. was to study schemes of patient care and to note the developments in design and planning of hospitals. I spent over seven weeks in the U.S.A., and 10 days in Puerto Rico, where an interesting experiment in regionalization of hospitals is taking place. The visit was made possible by a grant from the Rockefeller Foundation.

Hospital Development

It is not generally realized that the population of the United States increased by 35m. over the years 1940–55. Three times as many persons were admitted to hospital in 1955 as were admitted in 1935. How have the hospitals kept up with such increased utilization?

Under the Hill Burton Programme the Federal Government has assisted in the building of between 3,000 and 4,000 new hospitals since the end of the war, providing over 135,000 beds; 1,200 projects which will add a further 52,000 beds are under construction, and others in the pre-construction stage will provide nearly another 11,000 beds. Financial assistance has been provided by means of a "matching contribution," which varies from one-third to two-thirds of the total cost of the hospital. The local sponsoring body may be public or private, but the hospital must be non-profit-making and provide a community service. The plans must reach certain minimum standards laid down by the United States Public Health Service, and to that end they are examined by officers of the department. This examination also provides opportunities for suggestions to be made to the sponsoring body, but every scope is given for local preference. The United States Public Health Department, as a general guide to hospital planning, has issued a large number of important publications in the form of "guide material" which covers every aspect of hospital planning and construction. They range from "A Prototype Study—600-bed hospital" through "The Hospital Laboratory—Equipment and Supply Lists," to "Recommended Lighting Practices," and are freely available and contain mines of information.

More than half the new hospitals have fewer than 50 beds, 20% have from 50 to 99 beds, and the remaining 22% have 100 beds or more. Half the projects are located in communities with a population under 5,000. Not all the new hospitals in the United States are provided under the Hill Burton Programme, however. Some of the most interesting examples of those which have been built privately are the 10 hospitals of the United Mineworkers in West Virginia and Kentucky, and the Permanente Hospitals of San Francisco and Los Angeles, originally provided in association with the Kaiser Foundation.

The deficit of beds in the United States hospitals is still thought to be great, and estimates suggest that about 850,000 more are required to meet the nation's peace-time needs. Though nearly 200,000 beds are now being provided under the Hill Burton Programme, progress in remedying this shortage is said to be slow because of