symptom—itch—while more specific treatment is used for the underlying cause. The effect of antihistamines are palliative rather than curative, but in the absence of any effective alternative they are often prescribed.

COMMON PROBLEMS

Some problems are so frequently encountered that they should be mentioned. Most doctors agree that the use of a placebo (a substance with no known pharmacological effect) is justifiable if there is no reasonable alternative, and particularly if its use may stop patients from taking more dangerous remedies. On the other hand, some agents are particularly prone to produce rashes and these are avoided if possible. Every dermatologist has puzzled over a worsening rash before at last realizing that his treatment (systemic or otherwise) was itself responsible.

Therapeutic conservatism may be frowned on in some circles, but is perhaps more important in dermatology than most other branches of medicine. It may be tempting to start some relatively toxic and hazardous systemic therapy for a severe and apparently unremitting dermatosis. Immunosuppressive agents including corticosteroids in psoriasis and eczema are examples. In malignant or rapidly fatal conditions the indications for the

use of these agents are clear enough, but in diseases causing morbidity rather than mortality their use has to be carefully weighed up. Usually this is a decision best taken by a specialist.

The patient's plea for pills is not an index of the severity of a disease—they often have little idea of the long-term problems which may face the victim of, say, 20 mg of prednisolone daily—and the doctor's decision must be based on the whole picture, which includes factors such as the patients' age, intelligence, work (or loss of), dependents, and availability for proper follow-up. If there is no alternative to therapy such as methotrexate in psoriasis, adequate preliminary investigations must be carried out before starting treatment. Reviews should be arranged to detect dangerous side effects early and to consider regularly whether the dose can be reduced, or the drug even stopped altogether.

Further Reading

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Medicine in Old Age

Mental Disturbance in the Ill Old Person

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Mental disturbance is very common in ill old people and the mortality in this group is high. Management may be difficult and mismanagement can change a restless ill patient into an apathetic, dehydrated, incontinent patient with pressure sores, at grave risk of dying from pneumonia or pulmonary emboli.

Progressive mental impairment is a common accompaniment of ageing. Where this has progressed to obvious impairment of memory, the disability is labelled "dementia," but many of these old people (at least in the earlier years) remain sufficiently competent to go on living in a simpler way with their families or even by themselves. Even relatively mild physical illness or other adverse factors in such people can cause an acute confusional state, and precipitate a domestic crisis. Even when there is no obvious mental impairment the aged brain tends to have less "reserve," so that it is much more readily upset than the younger brain by drugs or illness. As a result over a third of all patients admitted directly to geriatric departments are confused.

The mental symptoms may range from delirium with hallucinations to restless, agitated, and aggressive behaviour. Many patients are obviously physically ill, but in some the psychiatric symptoms dominate the picture.

Commoner Causes of Confusional States

STROKES

Patients with strokes causing major paralysis may be confused, but in these cases the cause is clear. Nevertheless, the cerebral infarction may not affect the pyramidal tracts, and the illness may then present with acute confusion. Careful examination may detect some confirmatory signs, such as minor weakness or clumsiness of a limb or an extensor plantar response. Examination must include rough tests of the visual fields, as homonymous hemianopia is easily missed in a confused person and it may contribute to the apparent confusion.

A stroke may cause only dysphasia, or even jargon aphasia, so that the patient's speech is gibberish. The patient may be confused or may only appear to be confused because of his nonsensical speech. Examination will reveal nominal dysphasia, and the sensible behaviour will be out of keeping with the disturbed speech. The disability can be very frightening and bewildering to the patient, who may become agitated and frustrated—and these can add to the difficulty of diagnosis.

At the onset of the stroke there may be headache, vomiting, vertigo, or ataxia as well as the acute onset of confusion. In many cases there will be no confirmatory signs and one is left with a presumptive diagnosis based on the history and on the exclusion of other factors. Electroencephalography may suggest focal damage, but whether further neurological investigation, including lumbar puncture, is justified depends on the history and total clinical picture. As with paralysis, there is a natural tend-

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ency for the confusional state to improve with time, though further strokes are common.

CEREBRAL ISCHAEMIA

Many causes of cerebral ischaemia without actual infarction may cause confusion. A low cardiac output may be due to congestive heart failure, cardiac infarction, pulmonary emboli, or associated with abdominal emergencies such as volvulus, mesenteric infarction, or gastrointestinal bleeding. The patient is clearly ill, but the cause may not be obvious. Strokes and episodes of cerebral ischaemia are more common in patients with hypertension, but a normal or low blood pressure at the time of examination may be due to the ill state of the patient and evidence of previous hypertension may be found from left ventricular hypertrophy on x-ray examination and electrocardiography, or from examination of the optic fundi.

CEREBRAL HYPOXIA

Patients with chronic respiratory failure readily become confused, especially with infection or with the onset of cor pulmonale, but may become lucid again as the acute episode subsides. Chronic anaemias cause confusion only when they are quite severe, with a haemoglobin level usually below 7 g/100 ml. Confusion may occur in vitamin B₁₂ deficiency states, even without anaemia, but this responds to vitamin B₁₂ injections only rarely.

SUBDURAL HAEMATOMA

This condition may be rewarding to find, and disastrous to miss. It must be suspected when there is a history of falls, and when confusion or consciousness is fluctant. Old people with friable atheromatous vessels are particularly at risk, and there may be no clear history of trauma. Cortical atrophy seems also to predispose to collection of fluid in the laxer subdural space. Sometimes acute symptoms turn out to be associated with very old haematomas or hygromas, and even here the results of surgery may be excellent.

A prominent elderly local citizen had been noticed to be progressively behaving more oddly over several months, a development which was attributed to his well-known fondness of alcohol. When he became acutely confused and aggressive one Saturday night, the psychiatrist was summoned with a view to compulsory admission to hospital. In fact, he had papilloedema and minimal long-tract signs, and bilateral subdural hygromas of apparently very long standing were evacuated that night. He remained very confused for several weeks after operation but subsequently returned to full normality, with no detectable intellectual or neurological deficits, and was very well two years later.

CEREBRAL TUMOUR

A change in the behaviour and personality over a period of weeks or months may be the first evidence of cerebral tumour, either primary or secondary. When suspicion is aroused, either by the history or by the associated signs, full investigations will be required; often in this age group it is not reasonable to undertake operation, but in some patients, even the very old, surgery may be followed by worthwhile—and even dramatic—improvement.

MYXOEDEMA

The mental symptoms of myxoedema are usually lethargy and slowing of thought processes. Occasionally there may be confusion, or a depressive or paranoid picture—the “myxoede-

matous madness” of Richard Asher. This may respond slowly to small doses of thyroxine; in most cases, however, the mental state is not improved, though the general physical state may be.

DIABETES

Diabetic hyperglycaemia or acidosis may present with confusion as well as drowsiness. More frequent, and much more important, is the confusional state due to hypoglycaemia, especially from oral antidiabetic drugs. Diabetes is common in old people and many are unnecessarily started on oral drugs when the mild diabetes could be controlled by diet only. The hypoglycaemia may be far from obvious as it often presents as a confusional state without sweating or hypotension. It may come on insidiously and persist for hours or even for days if the treatment is continued. It should always be suspected when there is confused behaviour of someone on oral hypoglycaemic drugs. If confirmation from blood sugar estimation (or Dextrostix) is not readily available, it may be obtained by the therapeutic response to a large dose (for example, 25 g) of intravenous glucose or to oral carbohydrate. Chlorpropamide is not the drug of first choice in the elderly because its long action makes hypoglycaemia particularly dangerous. A diguanide such as phenformin may be sufficient but if a sulphonylurea is required one of the shorter acting drugs such as tolbutamide is safer. Chronic brain failure is common in diabetes, probably because of increased prevalence of atheroma, but sometimes because of past cerebral damage from severe hypoglycaemia.

TOXIC CAUSES

Infections

In a young person high fever or pneumonia may cause delirium, but in older people delirium may accompany less severe infections. In old people infections—for example, pneumonia or urinary infections—may be silent till they are quite advanced and a change in the mental state is often the presenting symptom.

Tissue Necrosis

The mental state of a patient ill and confused with gangrene of a leg may be much improved after amputation. In the same way a major pressure sore may contribute to the confusion of the patient already ill enough to develop a sore. Absorption of blood, either from a large haematoma (which may accompany a fracture of the femur) or from the gut after gastrointestinal haemorrhage, may exacerbate both the physical and the mental state.

Other Toxic Causes

Chronic renal failure is common and with the associated anaemia can make the patient ill and confused; it may also add to the illness by enhancing the toxicity of drugs. Pre-renal uraemia may result from an inadequate fluid intake. Electrolyte imbalance may be due to dehydration, renal failure, or to drugs, or to a combination of these factors.

Carcinoma without cerebral metastases may affect the nervous system by causing toxic neuropathy or occasionally cerebellar degeneration; commonly it may cause or exacerbate confusion.

DRUGS

Old people tend to have multiple diseases, and it is all too easy to give a drug for each condition that one finds—for hypertension, methyl dopa; for giddiness, prochlorperazine; for ankle

oedema, irrespective of cause, a diuretic; for anxiety, a tranquilizer; and so on.

Old people's brains are quite easily befuddled and they are often subjected to greater concentrations of drugs than those of the young, partly because of the number of drugs prescribed, partly because a degree of renal failure impairs excretion, and partly because so often a frail old lady has such a small body mass. It is important to avoid overtreating elderly people. Time after time we have seen a remarkable improvement in the physical and mental state when all the numerous drugs have been stopped. If the elderly patient is on a complicated regimen it is virtually certain that the regimen will not be properly followed, and it may be the important drugs which are omitted. This is likely to make evaluation even more difficult, because one can never be certain what the patient is actually taking. It should seldom be necessary to prescribe more than three different regular drugs. When a drug is prescribed, it should be discontinued when it is no longer needed.

The drugs which are most likely to cause confusion are those which act directly on the nervous system—and the most notorious are the anti-parkinsonian drugs.

A patient was admitted in a confused agitated state, tottery and having had some falls. Over the next day or two he returned to his normal slightly forgetful self and after returning home to his elderly wife he remained well for a week. He then again became acutely confused and that night fell on getting out of bed and was incontinent of faeces. This crisis precipitated a home visit next day, when a bottle of benzhexol tablets were found. Inquiry showed that they had been started just before the first admission, but had not been resumed after discharge till the previous day when his wife asked the district nurse if she should restart them. One tablet was apparently enough to cause this crisis.

All the anticholinergic drugs as well as L-dopa and amantadine may cause insomnia, restlessness, hallucinations, and delusions. These initial doses of these drugs must be small and the level built up gradually; only rarely should they be pressed to the levels used in younger people.

All sedatives and tranquilizers are apt to make an ill old person bemused and lethargic and add to the difficulties of nursing care. They can also cause hypotension with fainting or falls and can contribute to hypothermia. They may be necessary to control restlessness or delusions, but when they must be prescribed the starting dose should be less than in younger people. Hypnotics too increase the liability to falls during the night and may cause nocturnal confusion. It is hardly ever necessary for old people to have hypnotics regularly. When prescribed for a single occasion or for a short spell the dose should be lower than in younger people whatever hypnotic is used.

Tricyclic antidepressants are valuable, but may cause excitement and confusion. Monoamine-oxidase inhibitors are only very rarely appropriate for old people, and it is obviously of particular importance to satisfy oneself that the patient or her attendants can be relied upon to keep to the necessary dietary restrictions. Finally, the doctor must not forget that elderly people as well as younger people may be alcoholics, with ataxia and a chronic befuddled state.

EPILEPSY

Epilepsy is common in older people and is most commonly due to arteriosclerotic brain damage. The seizures may be followed by a period of drowsy confusion, but are often atypical and may present as transient episodes of confused behaviour. In the elderly the doses of antiepileptic drugs used in younger people often cause unsteadiness and confusion.

MULTIPLE FACTORS

Often it is not possible to point to a single cause of confusion in an ill old person. It may be due partly to the primary illness,

partly to removal from familiar surroundings, partly to dehydration or electrolyte disturbance, partly to the complications of venous thrombosis or pressure sores, and partly to the drugs used. If there is any underlying dementia then the more severe the dementia the less specific and clear-cut the cause of a confusional state is likely to be.

Principles of Diagnosis and Management

DIAGNOSIS

It is important to obtain a full history of the development of the illness and this must include a history from a relative, friend, or neighbour. It is very important to ascertain the mental state of the patient *before* the illness. The abrupt onset of confusion suggests the possibility of a stroke. The development of confused behaviour over some weeks or months in a previously normal person raises the possibility of a cerebral tumour. A history of previous mental illness—for example, depression—even many years ago, may be a valuable clue.

An 82-year-old woman, evidently very confused, but talking very little, incontinent and refusing food and drink was admitted to our joint unit. The recent history was not clear, but a relatively sudden deterioration seemed to have occurred. The family said there was no previous history of psychiatric illness. The lady looked sad, and the nursing staff were asked to keep a careful record of the few utterances she made. Such as there were turned out to be almost all self-deprecating, and a diagnosis of depression was made. Despite general measures she continued to decline, and she was given electroplexy to which she made a gratifying response. It was only at this point that the family "confessed" that she had had an almost identical illness 20 years ago, when she had likewise recovered after electroplexy.

The inquiry must include a drug history and especially the relation of the onset of confusion to any new therapy. Physical examination may be difficult, but must not be neglected, and should include neurological examination.

The cause of the illness and the mental disturbance will often then be clear and, if the facilities are adequate, the patient can be managed at home. When the cause is not clear, the advice of a geriatric physician or psychiatrist should be sought at a domiciliary consultation. When the cause cannot be established at home, or when sufficient facilities, or tolerance, to nurse the patient at home are not readily available, the patient must be admitted to hospital. Because the accent will normally be on physical investigations and general nursing care, admission should be sought not to a psychiatric department, but to the geriatric or medical department. Where there is a "psycho-geriatric assessment unit" jointly controlled by a psychiatrist and the geriatrician, admission to this unit may be best.

MANAGEMENT

The management of an ill confused old person is one of the most difficult problems in the practice of medicine. Every effort must be made to find and treat the underlying cause or causes, not just to treat the mental disturbance symptomatically. While waiting for treatment to take effect or for natural recovery, symptomatic and supportive treatment will be necessary.

If the patient is restless, sedation will probably be required—but strong sedation is likely to add to the gravity of the primary illness. If the patient is ambulant, sedation will make him liable to fall. If sedation is sufficient to keep him in bed, it is likely to lead to pressure sores, venous thrombosis, or serious dehydration. Even without sedation it may be difficult to get adequate fluids into ill confused patients (a careful record should always be kept of fluid intake and, so far as possible, of output).

For these reasons the least possible sedation should be used. The more nursing time that can be devoted to the patient the less will be the need for sedatives and the easier it will be to

maintain an adequate fluid intake. Where there is a willing relative this will be best achieved at home; moreover, the patient may be less disorientated in his own surroundings and with his own family. Reassurance, familiar attendants, and, in hospital, minimum change of surroundings are all as important as sedative drugs. Good lighting can be important; some patients became much more confused in shadowy ill-lit rooms. Disturbed behaviour is apt to be worse at night and more distressing to relatives, who themselves become irritable through lack of sleep; so hypnotics will usually be required. The most popular hypnotics in geriatric practice are those short-acting drugs based on chloral hydrate, or one 5 mg tablet of nitrazepam. When there is restlessness, however, a phenothiazine will be indicated—for example, chlorpromazine 25 mg or thioridazine, which may be given together with a mild hypnotic drug. When restlessness is a problem by day, regular rather than sporadic phenothiazine drugs are usually best. In old and frail people we prefer promazine, say 25 mg three times a day, rather than stronger phenothiazines, because the dose of the weaker drug may be more exactly adjusted. Such drugs are cumulative and the effect increases over the first day or two. There is much to be said for the doctor relying on one or two major tranquillizers with which he is familiar, rather than trying out the latest one. Long-acting injected tranquillizers such as fluphenazine decanoate are best avoided in old people, because, once injected, their dosage cannot be regulated and side effects may be very troublesome. When the patient cannot be controlled by these means, or when dehydration threatens to become a problem, admission to hospital will be indicated. It may then be necessary to rehydrate the patient, by giving heavy sedation so that he will not interfere with a stomach tube or intravenous infusions. A wild and aggressive patient who cannot be calmed may need more dramatic action. Chlorpromazine, 50 mg by injection, will usually be effective, but this should be a single dose and not repeated regularly without reassessment.

We know of no good evidence that it helps to give massive doses of vitamins to confused patients. It is reasonable to give vitamins in therapeutic doses to those patients who have been living in a state of neglect and malnutrition, and, of course, especially if alcoholism is known or suspected. Search for

bottles should be part of the routine assessment of the elderly recluse or isolate.

Depression

Depression in old people may respond excellently to drug treatment or to electroplexy and it may present as a confusional state. The past history is a particularly important feature. The patient may be agitated, but more often is withdrawn or even mute, refusing food and drink, so that she becomes dehydrated and seriously ill. Confirmation of the diagnosis should be sought from a psychiatrist. Admission will be required for the more severe cases either to a psychiatric department or to a joint geriatric-psychiatric unit.

A 68-year-old man "collapsed" while visiting his wife, who had for many years been a patient in a mental hospital. He was himself admitted to hospital, but despite extensive investigations no physical cause for his "collapse" was found; but he was confused, withdrawn, refused food, and looked sad. It turned out that his dog, with whom he had lived alone for many years since his wife's hospitalization, had recently died, and his neighbours had noticed that he had virtually stopped going out. A diagnosis of depression was made, though some degree of dementia was also suspected. Treatment with amitriptyline was started but he became still further dehydrated and was transferred to a geriatric unit. He became grossly confused, withdrawn, and ill. He was rehydrated, an intercurrent chest infection was treated, and he was given electroplexy, whereupon he recovered to full normality with no signs of intellectual impairment. Six months later wrote a long and impeccable letter reporting his progress, having moved to another part of the country, to which he wished also to bring his wife.

Delusional States

Chronic delusional states without progressive dementia, usually paranoid, are common in old people. They can often live with their delusions quite happily, though they may cause concern to others. With new physical illness the delusional state may become more severe or come to the notice of the doctor for the first time. Their persecutory states often respond to phenothiazine treatment, sometimes dramatically.

Any Questions?

We publish below a selection of questions and answers of general interest

Sarcoidosis and Pregnancy

A 30-year-old patient with active sarcoidosis, principally affecting her eyes, asks when it would be safe to attempt a pregnancy. She has no children and has been on systemic steroid therapy for some time.

The literature on this condition in pregnancy is very scanty. A quick review shows only one paper on the subject over the last 13 years in the American and English literature.¹ The best account is by Siltzbach.² The consensus of opinion is that sarcoidosis has no effect on pregnancy, though activity might be a cause of abortion. Nor does it have an effect on the fetus. The disease, if anything, is usually improved by pregnancy, perhaps because of the increased output of corticosteroids. However, there is a tendency to relapse in the first few months after the baby is born, so this is a time for special surveillance. On general grounds, therefore, it would seem that there is no reason to prevent this patient from starting a pregnancy, and the disease is not a cause of infertility.

Steroid therapy has been implicated as a cause of fetal abnormality when administered in the embryonic phase of development, though the risk is probably slight and again is not a reason for suggesting that this patient should not start a pregnancy. Special care will be needed in labour, which must be covered by extra steroids. Oestriol excretion in pregnancy is diminished when steroids are given, so that other tests of placental function are used if they are indicated. These might be pregnanediol excretion or serum human placental lactogen. Respiratory function should be assessed, since if this is impaired then the second stage of labour might reasonably be shortened by applying forceps. A chest x-ray should be taken as part of the antenatal care, even though this is not now normally done routinely. Serum calcium may be low and should be checked occasionally. The baby will need careful supervision because of adrenal suppression by the steroids.

¹ O'Leary, J. A., *American Journal of Obstetrics and Gynecology*, 1962, **84**, 462.

² Siltzbach, L. E., *Medical, Surgical and Gynecologic Complications of Pregnancy*, 2nd edn., ed. J. J. Rovinsky and A. F. Guttman. Edinburgh and London, E. and S. Livingstone Ltd., 1965.