MEDICAL PRACTICE

Today's Treatment

Psychological Medicine

Organic Illness

R. A. WOOD

British Medical Journal, 1975, 1, 723-726

Many patients have problems which are not exclusively medical or psychiatric but a mixture of both. It is specially important to remember this when taking a history. Otherwise physicians and psychiatrists run the risk of missing the diseases that fall within each others' province.

Organic Brain Syndromes

Amnesia, dementia, and confusion have areas of overlap that can be clarified in the individual by a full history from patient and relatives, along with the observations and comments of trained staff who have been looking after the patient. The information that is needed can be summarized thus: (*a*) Orientation in time and space. (*b*) Memory for recent and past personal events. (*c*) Memory for recent and past general events. (*d*) Attitude and behaviour in the ward or clinic. (*e*) Mood, activities, sleep pattern.

Confusional states are characterized by loss of immediate memory, which in an unfamiliar setting inevitably involves disorientation. After recovery there is no recollection of the episode, and overall mental function may prove to be normal. It is, then, an acute reversible situation. Dementia is a composite of intellectual decline, loss of memory, and personality deterioration. It is usually, but not always, of slow onset and represents severe, generalized, cortical damage. Amnesia does not necessarily mean that dementia is present; some quite specific acute amnesic syndromes occur in a relatively pure form.

Bridge of Earn Hospital, Bridge of Earn, Perth
R. A. WOOD, B.SC., M.R.C.P., Consultant Physician

ACUTE CONFUSIONAL STATES

These range from mild, often not recognized, to severe, often with the visual hallucination and motor excitation of delirium. The problem is more severe at night or in an unfamiliar environment. Aggressive or paranoid features are common. The treatment is to identify and treat the precipitating cause and control the acute psychiatric manifestations.

Older people are especially prone to confusion during acute medical illness such as anaemia, myocardial infarction, bronchopneumonia, urinary tract infection, or cerebral ischaemia. Dehydration and electrolyte changes, especially after surgery, frequently lead to confusion—a state in which further dehydration easily develops. Sedatives, notably barbiturates, depress the central nervous system (C.N.S.) and can expose and provoke confusional syndromes. Vitamin B_{12} deficiency should not be forgotten, nor should nutritional deficiency causing folic acid depletion.

At any age confusion may be the result of head injury, epilepsy, hypoglycaemia (spontaneous or induced by insulin or sulphonylureas), hypercalcaemia, shock (or any other cause of cerebral hypoxia), or rare diseases such as porphyria or polyarteritis. Special mention should be made of drugs. Alcohol and barbiturate withdrawal can lead to toxic psychosis, respectively with visual hallucinations and tremor and fits. Amphetamine can also cause a toxic psychosis. Isoniazid (with vitamin B_6 deficiency) and phenytoin (with folate deficiency) can do likewise; so also can cycloserine and digoxin. Acute brain swelling is a recognized complication of cytotoxic treatment. Here, as in cerebral metastases, corticosteroids such as dexamethasone may reduce the oedema. Any space-occupying lesion can cause

confusion, but subdural haematoma is worth remembering. Corticosteroids themselves cause acute confusional states (usually in high dosage), though this is rarely seen in Cushing's disease. Thyroid and adrenal crises should not now be seen, but the latter, having evolved insidiously, may be precipitated by acute infection. C.N.S. infection, abcess, encephalitis, meningitis (especially tuberculous) can all present with disorientation. Mental confusion may be the earliest sign of lead poisoning.

Treatment.—Sedation may not be needed if the patient is quietly confused. However, the fighting mad elderly patient, clambering over the cot sides, tearing off his oxygen mask, pulling out his drip, and spitting out medication does need attention for his own sake and that of others. Large or frequently repeated doses of general depressants such as paraldehyde can be positively harmful, and diazepam appears to lack efficacy in low dosage. Chlorpromazine is effective but time must be allowed for the first dose to act. With low doses (25-50 mg) hypothermia and hypotension are not important, and sedation is only moderate: this is sedation from which the patient can be wakened to take fluid or other medication.

Haloperidol, a butyrophenone with properties and side effects like some phenothiazines, is exceptionally effective, well tolerated, and relatively non-sedative. Doses of 0·5-1 mg, given as drops 2-3 times daily, very rarely lead to extrapyramidal features or involuntary movement.

The need for removal of the basic cause must be re-emphasized. Special treatment is clearly indicated in many of the above-listed situations.

AMNESIC STATES

Little need be said about the retrograde and post-incident amnesia of grand mal epilepsy and of trauma to the head. Accurate recollection of aura or the road crash is lost. Wandering can occur, and police and casualty staff are familiar with the slightly dazed patient, otherwise normal, who cannot explain why he came to be where he was. It is sometimes reasonable to allow an epileptic home, but amnesic patients have a special need for supervision after injury lest intracranial bleeding should have taken place. Occasionally transient global amnesia is the only pointer to cerebral ischaemia; when the critical narrowing of an artery is extracranial, recognition of the fact may allow successful vascular surgery before stroke occurs.

Recent loss of memory can be the only symptom of subarachnoid haemorrhage, herpes encephalitis, or vascular or space-occupying lesions of the temporal lobe. Some of the lower parts of the limbic system are important in the assimilation of memory. The medial dorsal thalamus is possibly concerned with amnesic syndromes due to neoplasm in or near the third ventricle or in acquired hydrocephalus.

In Korsakoff's psychosis short-term loss of memory may persist for weeks after the disorientation, nystagmus, and ocular paralysis have responded to treatment with thiamine and the withdrawal of alcohol.

Dementia

The early sufferer may appear to have only anxiety or depression, the result perhaps of insight. This is one of the situations in medicine when both the patient and relatives may suppress the truth. A careful history and examination will often show that memory suffers more than intelligence and intelligence more than the quality of the conversation. In doubtful cases serial I.Q. testing may clinch the diagnosis. The early loss of memory is for proper names and events on the fringe of recall. Artistic and intellectual interest wanes; only later do drive and ambition disappear. Later still, when there is real poverty of thought, speech, and deed the condition is easy to recognize. The later changes entail a loss of the inhibition of bad characteristics and abnormal urges.

ACUTE DEMENTIA

This can follow near fatal asphyxia (including carbon monoxide poisoning), prolonged circulatory arrest, severe head injury, or prolonged and severe hypoglycaemia. It is not commonly known that long-acting sulphonylureas, such as chlorpropamide and glibenclamide, have their effect increased when they are released from protein binding by drugs such as aspirin, some other analgesics, and sulphonamides. The resulting hypoglycaemia, in at least two elderly patients known to me, brought the patients to hospital with hemiplegia. Both were still hypoglycaemic hours later and suffered permanent neurological impairment.

DEMENTIA IN THE ELDERLY

Senile or primary neuronal dementia is commoner in females, who live longer. Progression is rapid, and, unless the home environment is ideal, wandering and amnesia will lead to admission to hospital with the inevitable confusion in the new environment. The memory of distant events is well preserved and is a poignant reminder of youth and happier times. The treatment is custodial and symtomatic. The relatives need to have it explained to them why the patient does not know them and the patient, who is in no mind to conduct affairs, has to be protected from people who, in her life or after death, have an eye on her wealth and possessions.

ARTERIOSCLEROTIC DEMENTIA

This occurs more frequently in men than women, for men are more prone to atheroma and the sequelae of hypertension. Insight and personality are often well preserved and the progress is stuttering, coinciding with a series of acute events. Focal signs like hemiplegia, hemianopia, Parkinsonism, and pseudobulbar palsy are usually present. Fits occur in many dementias but, though focal, do not point to any specific diagnosis. Only limited benefit results from treatment of hypertension at this stage, though life itself can usually be prolonged—or, to be more accurate, death can be postponed.

PRESENILE DEMENTIA

As in primary neuronal dementia localizing features tend to be lacking, and loss of cortical association pathways leads to such symptoms as agnosia (loss of orientation in familiar circumstances) or apraxia (loss of a professional skill). As untreatable diseases the presenile dementias are diagnoses of exclusion. Alzheimer's disease is commonest, occurring in the age group 50-65, and blends into senile dementia, from which it is indistinguishable in pathological terms. Pick's disease tends to affect younger people and is often restricted to some parts of the cortex. Huntington's chorea can be a misnomer in that dementia may be the presenting feature. Creutzfeldt-Jacob disease is probably a conglomerate of disorders, including one with associated disease of the basal ganglia.

Treatable or Preventable Dementia

CHRONIC TRAUMATIC DEMENTIA

This form of dementia, with tremor, ataxia, and slurred speech, can simulate the presenile dementias, but a history of chronic trauma in the boxing ring, for instance, may be obtained.

Interestingly enough the same condition is now being reported in former professional footballers, presumably defenders.

NORMAL PRESSURE HYDROCEPHALUS

This variant of hydrocephalus is associated with dementia and ataxia. The cause appears to be an obstruction to the flow of cerebrospinal fluid from the basal cisterns to the surface of the hemispheres. A history of meningitis, encephalitis, or subarachnoid haemorrhage should be sought. A number of patients with this syndrome show some sustained improvement after ventriculoatrial shunting has been carried out.

SPACE-OCCUPYING LESIONS

If early amnesic features are missed, slowly growing meningioma can present as a progressive dementia. Tumours in the callosal systems may also present in this way. Frontal tumours, with loss of inhibition leading to uncharacteristic or antisocial behaviour, and temporal tumours, with dysphasia, also lead on to dementia. Tumours in the posterior fossa cause increased intracranial pressure, but cranial nerve or cerebellar symptoms usually precede dementia. In subdural haemorrhage, in which fits and focal features are rare, the fluctuating nature of the dementia suggests both the diagnosis and the possibilitv that there is psychological illness.

SYPHILIS

Localizing features such as speech defect, tremor, or co-existent tabetic features may draw attention to the minor personality changes of the patient developing general paresis. But the early picture can be dominated by neurotic or depressive features. It is essential to exclude this diagnosis in every case of dementia. Effective treatment with penicillin can often bring about worthwhile improvement in the early case and, what is often forgotten, prevent relapse following cure.

B_{12} DEFICIENCY

Deficiency of this vitamin can present as progressive dementia unaccompanied by any sign of megaloblastic anaemia or subacute combined degeneration of the spinal cord. The condition presents in the elderly, the very age group in which dementia is least apt to be investigated thoroughly. Folic acid deficiency, broadly speaking, is the result rather than the cause of dementia.

HYPOTHYROIDISM

Mental slowing may be considerable before the endocrine diagnosis can be made easily on clinical grounds. Good biochemical surveillance of patients treated previously with iodine-131 or partial thyroidectomy will lead to diagnosis before any important symptoms develop. Paranoid features with dementia are especially suggestive of hypothyroidism.

ADRENAL DEFICIENCY

This insidious condition can also present with a mild chronic brain syndrome, in this case with depressive features.

CHRONIC HYPOGLYCAEMIA

Mental changes have been reported in insulinoma but, as with chronic insulin overdosage, there should be symptoms referable to adrenal medullary secretion. These symptoms are masked in patients on β-adrenergic blocking drugs such as propranolol. In such patients hypoglycaemia, short of coma, is much harder to recognize.

Other Psychiatric States

ANXIETY AND NEUROSIS

Patients with serious illness are entitled to be frightened and anxious. The art of medicine in large part consists in allaying fear, moderating anxiety, and turning both to the advantage of the patient on occasion to secure co-operation with treatment. But at times minor illness causes excessive anxiety, even panic, and the response to more serious illness can also be too extreme to be beneficial. Some cardiac patients, notably those with angina, crack up. Anxiety dominates their lives to the detriment of their jobs, their families, and their health. Propranolol may owe part of its success to central properties far removed from the cardiac sympathetic which it inhibits. A benzodiazepine such as diazepam or lorazepam can often cut trinitrin requirements as well as improve symptoms due to tension headache, irritable colon, or peptic ulcer. Really severe anxiety may need haloperidol or doxepin, a drug thought to have properties common to both diazepam and a tricyclic antidepressant. Panic attacks, though not the fear of them, can be prevented with imipramine even in the absence of depressive features. In malignant disease effective analgesia can sometimes reduce the index of anxiety complaints. Here, as in many situations, reassurance and explanation (with due care and tact) can go a long way, though some patients see through such ruses and accept them only to protect the feelings of relatives and attendants.

Doing lots of investigations in a patient with trivial illness can, far from allaying anxiety, increase it. The dangers of casual drug treatment are never greater than in many endocrine conditions, such as thyrotoxicosis, hypercalcaemia, hypopituitarism, and hypothyroidism, in which anxiety may dominate the clinical picture. The paradox of thyroid disease is that hypothyroidism often presents with anxiety while hyperthyroidism can present with depression, albeit without retardation.

Better assessment of patients can solve or clarify many situations in which physical disorders and anxiety are intermingled. The weak character will magnify symptomatology. And, if a man's character and personality seem inappropriate to his station in life there is a fair chance that some psychoneurotic factors are playing a part. Disorders of appetite, sexual activity, energy, sleep, humour, and concentration overlap with the symptomatology of dementia and depression.

DEPRESSION

Physical disease is associated with both reactive and endogenous depressive reaction. The mortality of bereavement is a real thing and there should be more general awareness that mourning is sometimes confused with treatable depression which may not go away with time, reassurance, support, and the affection of relatives. Depression is common after stroke, in patients with Parkinsonism, myocardial infarction, heart failure, chronic renal insufficiency, and malignant disease.

A depressive reaction is best treated with nortriptyline, but the patient who is alert or shows anxiety may do better on amitriptyline. Dosage requirements vary considerably, and recent blood level studies support a view that both inadequate and excessive quantities can be responsible for poor clinical response. Toxic doses cause anticholinergic problems such as dry mouth, tachycardia, urinary retention, and aggravation of glaucoma. Hypotension and arrhythmia is possible in a patient with previous cardiac disease, while hypertension to an alarming degree can occur when a tricyclic is given to a patient taking a

sympathetic nerve-blocking drug—such as bethanidine, debrisoquine, or guanethidine for hypertension. ST and T wave changes can occur in the E.C.G., together with fine tremor, dysarthria, confusion, and excitation.

When anxiety dominates a depressive state a combination of a phenothiazine and a tricyclic antidepressant is more appropriate, such as amitriptyline with perphenazine or nortriptyline with fluphenazine. Doxepin, mentioned above (see anxiety), is also recommended in this situation.

Lowering of mood can be the striking feature in many infective illnesses such as glandular fever, brucellosis, cryptic miliary tuberculosis, and subacute bacterial endocarditis. It is particularly important to remember that depression is a common symptom in pancreatic carcinoma and usually antedates the classical painless obstructive jaundice by some weeks or months. Hypercalcaemia causes depression rather more frequently than any other of the many other psychiatric symptoms with which it has been associated. In primary hyperparathyroidism surgical cure can be effected. Other causes, such as multiple osteolytic metastases, can be treated by corticosteroids such as dexamethasone.

Drugs are a prominent cause of depression. Alpha methyldopa and reserpine (in doses above 0·25 mg b.d.) should be avoided in patients with a history of affective psychosis or self-poisoning. Oestrogen-containing contraceptive pills can cause disabling depression, as can digoxin in some patients. Indomethacin, which causes a muzzy headache in 25-50% of patients, is known to evoke fairly severe depression. Many other drugs have a reported association with depression.

SCHIZOPHRENIA

A schizophrenic reaction can occur in early Huntington's chorea and in general paresis. Some epileptics show a schizophrenic-like syndrome, which is thought to be of good prognosis. It is perhaps commonest in cases of temporal lobe epilepsy of the dominant hemisphere. Onset around the age of puberty appears to be correlated positively with later psychotic reaction.

Drugs are also a prominent cause of psychotic reactions. This clearly occurs with amphetamines and lysergic acid derivatives. Carelessly increased doses of L-dopa or large doses of corticosteroids can mimic a schizophrenic reaction. So too can cycloserine.

Paranoia, in this article's scope, is part of the acute confusional psychosis. As an isolated finding it is found in frontal tumour, early to advanced hypothyroidism, and general paresis.

Conclusions

This paper, summarizing the interrelationships between organic and psychiatric illness, has mentioned rather than discussed many problems. The treatment of organic psychiatric states is specific to the underlying cause and essentially symptomatic for the sequelae. Prevention rests equally on good medical services and their effective use by a community not noted for its interest in preventive medicine. Much benefit would result from an improvement in co-operation between psychiatrists and physicians.

Any Questions?

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

Pigeon Chest

What is the treatment for pigeon chest in an adolescent child with a history of bronchitis and hayfever?

I presume the pigeon chest is the usual low one, with the greatest deformity above the xiphisternal junction and some pinching in of lower ribs. It often improves in the early years, but at any rate it stops increasing when growth stops. It is usually said that treatment of the underlying respiratory tract cause is enough, though some believe the deformity itself can directly cause not only psychological problems but also diminished exercise tolerance or chest pain. Certainly, it can be associated with cardiac displacement. There are arguable claims that operation will improve the exercise tolerance and the symptoms and that the cosmetic result is worthwhile. Against this a considerable and often very ugly scar may remain after operation. The curtest account of treatment I have heard or seen is four words "*Pigeon Chest*. No treatment is required". It should need a lot to shift the doctor from this position, but he must be sure the patient has been treated as a sensitive person who should be able to understand the deformity will not progress further, realizes an ugly scar may result from operation, and is encouraged to live an ordinary life.

Varicose Veins and Oral Contraceptives

Are varicose veins in an otherwise healthy young woman a contraindication to the use of low-dose oestrogen oral contraceptives?

This question is becoming increasingly important to general practitioners and doctors working in the family planning clinics who are worried about the possibilities of thromboembolic disease in their patients. The short answer is, No: low-dose oestrogens are not contraindicated merely by the presence of superficial varicosities. Many young mothers have varicose veins after pregnancy and should not be denied oral contraception. So often it is the unsuspected deep vein thrombosis in the calf or pelvis which is the source of trouble and this diagnosis is notoriously difficult to make. If previous thromboembolic disease is excluded, and attention paid to such other factors as obesity or possible elective surgery in the future, and provided patients are followed up regularly then low-dose oestrogens do not seem to increase the risk of serious complications in a patient with superficial varicose veins. Some authors suggest that therapy should be discontinued after one year for a period of three to four months, particularly in patients wanting long-term treatment. There is, however, little evidence to suggest that the incidence of thromboembolic disease is thereby diminished.

Contraindications to Quinine Treatment

Is it unwise to prescribe quinine tablets for nocturnal cramp when the patient suffers from senile perceptive deafness, in view of the possibility that quinine may occasionally be ototoxic?

The small dose of quinine used to treat nocturnal cramp—300 mg—is unlikely to have an adverse effect on senile perceptive deafness, especially if the drug is taken intermittently. A few people, however, are hypersensitive to quinine and may develop symptoms such as itching, urticarial rashes, flushing, and tinnitus after a single dose. If this happens the drug should not be given again.