

IATROGENIC DISORDERS AND HEALTH EDUCATION*

G. A. ELLIOTT, *Professor of Medicine, University of the Witwatersrand and Chief Physician, Johannesburg Hospital*

For purposes of this paper I define 'iatrogenic disorder' as any dysfunction, usually psychological in the form of a psychoneurosis but today often physical, taking the form, for example, of a toxic effect of a prescribed drug, or an untoward or otherwise unsatisfactory result of a surgical operation that may develop as a result of a visit or visits by a patient to a medical practitioner. The Greek word *iatros* means physician or surgeon, and even in the modern specialist connotation of these two disciplines either the physician or the surgeon may be responsible for iatrogenic disorder. A surgeon-produced iatrogenic disorder may be caused even by the manner in which operation is advised, or the operation though skilfully carried out, may lead to physical complications, temporary or permanent. It is justifiable today to include as iatrogenic disorder any psychological or physical condition induced by reading or listening to medical items in books, magazines, the daily press or the radio. Introspection may convert what is heard or seen into neurosis. Persuasion may lead to the self-administration of unprescribed remedies, or to the failure to follow good prescribed medical advice, with physical illness resulting.

After I have enlarged upon the physiological and physical aspects of iatrogenic disorder, I shall deal with the part the medical educator has to play in its prevention and treatment. Medical students and practitioners must learn to instil in a positive way into patients and others, a sense of how to keep well physically and psychologically, or conversely how not to become ill.

The nature and implications of physical illness, for example peptic ulcer or coronary thrombosis, must be explained to a patient in simple but accurate terms, with a view to assisting him to bear the illness with commonsense

and with a minimum of neurosis-producing emotional stress. In relation to the prevention of iatrogenic disorders the need to cooperate with the numerous agencies responsible for health education and health maintenance—the nursing profession, health educators, the State, provincial and local authorities, the press and radio, the pharmaceutical industry—will be manifest.

At the outset let me say that the induction of iatrogenic disorder is not to be regarded as a condemnation of either doctor or patient. It may be 'just one of those things that happens'. This is not to say that we must not do everything in our power to prevent it.

IATROGENIC DISORDERS OF PSYCHOGENIC ORIGIN

The induction or prevention of iatrogenic disorders of psychogenic origin is related to the time-honoured doctor-patient relationship. Some patients are fertile soil for implantation and growth of the seeds of psychoneurosis, particularly anxiety; others are impervious and present nothing but rocky soil on which the seed of anxiety-inducing stress fails to thrive. It is for the doctor to recognize into which of these two opposing categories his patient should be placed.

From the doctor's side, iatrogenic neurosis may arise due to a number of factors. He may be off his guard due to fatigue and inattention because of his own worries or excessive overwork, and drop that careless word or gesture that breeds introspection; he may be no more than absent-minded; on the other hand he may be ignorant, and as a result make a wrong diagnosis, and consequently give an unduly gloomy prognosis. He may, for example, diagnose an innocent heart murmur as a sign of organic heart disease and restrict activities for life far too prematurely, after an attack of rheumatic fever.

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The doctor must be prepared to deal with the patient who consciously or subconsciously withholds information of his condition either due to forgetfulness (it is the doctor's duty to cross-examine expertly to avoid this forgetfulness factor) or fear of the consequences of disclosing all his symptoms. A patient, of say 50 years of age, may have experienced a dyspepsia for the first time in his life, visit the doctor, and then think up and discuss with the doctor every possible complaint except dyspepsia in order to mislead him, so that when the doctor is finally asked the question 'Have I got cancer?' (which is the patient's latent fear) the doctor having been deceived, answers 'Of course not—it's nerves'. The latent fear in such a case may, in fact, be well founded. The conflict between the latent fear and the reassurance of the doctor does in fact result in neurosis. The doctor must take heed of what the patient does not tell him, if iatrogenic neurosis is to be avoided.

The way in which the doctor advises his patient may breed neurosis. To say to the patient 'You have a coronary thrombosis, you are very ill, and I am not sure if you will recover' is enough during the acute phase of the illness, to induce in the toughest person an anxiety state which, in turn, induces tachycardia and change of blood pressure which may seriously and adversely affect the physical course of the illness. 'You have had a heart attack with a small clot which can get better so that you will in 2-3 months be in your previous state of good health. All you need do is to lie up for 3 or 4 weeks and follow some simple advice', is an approach that is not upsetting and will later encourage the patient to continue living in the best state of health possible, and consequently to continue providing his community service, be he bricklayer, clerk or business executive.

The hypertensive patient on hypotensive drugs requires to have his blood pressure read regularly with a view to controlling dosage of the drugs. With a little tact and diplomacy I see no reason why some patients should not learn occasionally to take their own blood pressure on waking and on going to bed—just as a diabetic tests his urine—and report this reading to the doctor. Forty years ago the testing of urine by the diabetic patient was regarded as neurosis producing. It is after all important that the doctor should know what the morning and evening resting blood pressures are, as the casual blood pressure taken during the day may be misleading. It is still customary today to consider that taking the blood pressure frequently by the doctor or the patient breeds neurosis. This undesirable effect in my opinion can be prevented by the right approach. One can of course think of some cases, such as very high malignant hypertension, in which one would not advise that the patient be told his blood pressure.

IATROGENIC DISORDERS OF PHYSICAL TYPE

Drugs as a Cause of Iatrogenic Disorder

All of you as health educators and promoters will be in touch with patients who are on long-term prescribed drugs for some reason, or with relatives of patients, and it is as well that you should know something of the story of the adverse effects of drugs in order to guide the patient if necessary back to the doctor who prescribed the drug, as accurately as possible.

Modern drugs have reached a remarkable degree of efficacy, but any drug that is efficacious carries a risk of greater or lesser degree. The drug that is entirely safe is almost certainly inert and inefficacious. Even a simple non-prescription effective analgesic such as aspirin is not entirely safe. It can cause severe haematemesis, particularly in older people and particularly if there is a past history of ulcer. Penicillin, still the most remarkable drug of the century, can cause allergic reaction and exceptionally fatal anaphylaxis.

It should be remembered that between 5% and 10% of the total adult population at any one time is on long-term drug therapy such as tranquillizers, hypotensive remedies, diabetic agents, all of which can in exceptional cases induce illness.

In considering the adverse effects of drugs, one must think of 3 groupings, there being no hard and fast lines of distinction between each.

(a) *Toxic effects.* These are no more nor less than over-dosage, intentional or unintentional. For example, one might raise the dose of digitalis to the toxic phase of vomiting in order to ensure that the patient is under the therapeutic effect. This is the doctor's concern. At least a third of patients on reserpine, an effective hypotensive drug, become mentally depressed in greater or lesser degree, and in the greater degree may even attempt suicide. Depression simulating psychotic depression can be drug induced.

(b) *Side-effects.* These are defined as an effect on an organ or function other than the one at which treatment is aimed. Antihistaminics, useful in some allergic conditions, were first discovered accidentally during research into a new hypnotic. It was found that the new hypnotic was no better than numerous other hypnotics already available, but that antihistaminic effects occurred as a side-effect. The drug was then developed because of its antihistaminic qualities and these became known as the main effect, and it was registered and marketed as such with a warning that it might induce drowsiness as a side-effect. One is apt to forget that this side-effect can be quite strong in some people. One wonders how often patients have travelled many bus stops further than they intended, due to having fallen asleep while on an antihistaminic. One wonders too, what traffic accidents have been due to the drowsy effect of an antihistaminic.

Anticholinergics commonly used for gastro-intestinal spasm, for example the pylorospasm associated with peptic ulcer, have in some people a cerebral stimulant effect. On a long-term basis this drug may produce euphoria, flight of ideas, and a carefree attitude. One wonders how many snap decisions in business or other circles have been made under the euphoric effect of anticholinergics and again how many traffic accidents have occurred under the influence of this side-effect.

Steroid (cortisone) is well known for the euphoria it can produce as a side-effect. Again one wonders how many impetuous decisions, the wisdom of which was debatable afterwards, have been made under the influence of steroid. When Kennedy and Khrushchev were at the height of their power, and Kennedy was reported to be on cortisone, it was said that the world was controlled by the three K's 'Kennedy, Khrushchev and cortisone'.

(c) *Adverse reactions.* These are defined as adverse effects of drugs, which are discovered as a rule, after the drug has been registered and marketed and is in wide circulation. The intensive pre-registration trials were not extensive enough to permit of these unusual effects manifesting themselves. They occur with a dose that is safe and effective for the vast majority of patients, and are frequently due to interaction between the drug and some other drug, agent or circumstance with which they come into chance meeting. One of the best known examples, was that following the introduction of a tranquillizing monoamine-oxidase inhibitor which, given over long periods by itself was effective and safe, but every now and then patients receiving it developed sudden severe crises of high blood pressure, with serious effects such as strokes which could even be fatal. As these reports filtered through to the manufacturers, it was gradually appreciated that all the patients who had such crises had partaken of cheese before the crisis developed. It was found that tyramine in cheese interacted with the monoamine-oxidase inhibitor in the intestinal tract and produced an active pressor agent which caused considerable rises of blood pressure. The drug is perfectly safe as long as long-matured types of cheese and some other substances are avoided.

Persons with the inborn error of metabolism, porphyria, very common in South Africa, may have acute dangerous crises of porphyria precipitated by barbiturates. The barbiturates do not cause the porphyria, they activate it. A small percentage of the population have an inherited deficiency in the enzymes of their red blood cells which in itself is harmless, but when these red cells are brought into contact with some drugs there is an acute destruction of cells leading to severe anaemia. During World War II, it was found that soldiers on primaquine antimalarial remedies occasionally developed 'haemolytic' crises, and in fact these were the cases that had enzyme deficiency in the red cells.

A person who is on a long-term barbiturate for epilepsy, a common disorder, or as a sedative for neurosis, a still more common disorder, may be found to be immune to the action of some anticoagulants, should such drugs become necessary, e.g. when the patient develops a venous thrombosis. It is now known that barbiturates stimulate the formation of an enzyme which destroys the anticoagulant drug once it has reached the blood, and the anticoagulant, though given in customary doses, is ineffective.

Persons on long-term hypotensive drugs and under good blood pressure control, may suddenly have crises of severe hypotension. Such crises may be precipitated by the administration of an hypnotic drug which interacts with the hypotensive drug, or by an infection, accident or operation.

One cannot pass over the subject of adverse reactions without referring to the development of antibiotic-resistant strains of organisms. Resistant staphylococcus strains developed and reached their peak about 1958-1959, when fortunately certain broad-spectrum penicillins and other antibiotics appeared which were active against such strains. This resistant staphylococcus problem, which was iatrogenic, has now come more or less under control and has given place to a resistance development by Gram-negative bacilli, which cause urinary and blood-stream

infections and which at present constitute the major resistant-strain problem.

Before leaving the subject of drugs, I must re-emphasize their possible effects on driving motor vehicles. The euphoria of anticholinergics, steroid and amphetamine, or the drowsiness of antihistaminics and tranquillizers, may well account for some traffic accidents.

I also remind you that old age can today be regarded as an iatrogenic disorder, due to the fact that so many elderly people who previously died of infections now have their lives saved by antibiotics and other drugs and are thereby enabled to live to a much greater age with all its family and socio-economic problems.

SURGERY AS A CAUSE OF IATROGENIC DISORDER

The most perfectly carried out operation may lead to complications which are quite disabling to the patient. The 'dumping' syndrome following gastrectomy is a case in point. It may be unavoidable, but worries the patient considerably. Fortunately it is usually temporary.

Operations may be unwisely attempted. The symptoms of a pathological gallbladder may be no more than dyspepsia, without gallbladder colic. This type of dyspepsia is frequently not improved by removal of the gallbladder and the patient is disappointed enough to develop neurosis if it has not been present before. Defects in surgical techniques may lead to iatrogenic disorder, such as post-thyroidectomy, myxoedema or tetany.

One also has to remember the psychological effects of 'mutilation'. Patients who need to have a breast or a limb removed must have both the physical and psychological effects of such removal explained to them very carefully. Our surgery—psychiatric student seminars, to which I refer later, aim at minimizing these problems.

HEALTH EDUCATION

Being a medical educator, I must speak mainly on the part that such an educator plays in the promotion of health education. I fully appreciate that many other persons and agencies are also concerned.

Every subject of the medical curriculum must be pervaded with advice on 'keeping healthy', and every clinical subject must have as its theme: 'How can we keep this patient in a maximum state of well-being in spite of his physical illness, be it coronary thrombosis, diabetes, hypertension or surgical operation?' One must always remember that the term, *Mens sana in corpore sano* merely signifies that if we keep the body perfectly fit the mind in that body is likely to be able to function to its maximum capacity, whatever that maximum capacity may be (it may be moronic or genius). A physically unfit moron will not become a genius by being made physically perfectly fit.

During the medical curriculum the doctor-patient relationship must be cultivated. It cannot be taught by didactic lecture or case demonstration. It must be seen by medical students to be practised in consulting room, clinic or hospital ward. A positive effort must be made to study the physical and psychological aspects of every patient. In my own department we hold joint clinics between senior students, the psychiatrist and myself. The same happens in the Department of Surgery. We try to let the students see for themselves under our guidance that every patient

is a mixture of physical and psychiatric disability, and that each aspect requires proper understanding to be properly managed. Students learn this attitude, it is true, on sick people but they can put the same attitude into effect when they enter practice, and meet people who come to seek their advice on their own problems, or on the problems of relations and friends.

As medical educators we must teach our students to use all the health facilities and agencies available, whether these be social services, the district nursing service, health inspectors, or child guidance clinics, etc. The medical student must learn what attention is needed by each individual patient, and to arrange that this attention be given. This attention may be very simple. I well remember the case of an elderly lady who lived in a room by herself near the hospital. She was admitted to the hospital with a coronary

thrombosis and was extremely agitated as so many such cases are. It eventuated that she was agitated not about her sickness but about her budgerigar which had been left alone in her room. The agitation was not doing her physical illness any good. The surprised house physician was asked by me to go across the street and attend to the budgerigar and make arrangements for the caretaker to look after it during the old lady's stay in hospital. The old lady's agitation was allayed, and she returned to her budgerigar 4 weeks later.

The total concept of health education must not be allowed to drift on the premise that 'the other fellow will attend to that particular or this particular'. In our educational system, including our medical educational system, we must constantly teach by precept and example the principles and practice of health education.