Essays in Medicine

ADDICTION TO MEDICINES*

BY

WILLIAM EVANS, M.D., D.Sc., F.R.C.P.

*Consulting Physician to the Cardiac Department of the
London Hospital, and to the National Heart Hospital;
Consulting Cardiologist to the Royal Navy*

During the past two decades, and especially in recent years, a change has taken place in the treatment of disease by medicines, a change gradual and almost imperceptible at the start but one whose consequences are now clearly discernible. An awareness of this change demands close attention to its impact on the practice of medicine. Erstwhile the dispensing of medicines has been the natural prerogative of the medical profession. There are signs that this customary control is fast slipping into other hands, and the profession should take care not to surrender its responsibility in this matter of the treatment of disease by medicines. In the case of all medicines the profession must continue to control their making and testing, sponsor their reliability, stand surety for their safety, and supervise their distribution and dispensing. If criticism of the conduct of these duties is ever necessary it should first come from those inside and not outside the profession.

The National Drug Bill

One-tenth of the expenditure of the National Health Service is in respect of medicines, and it now exceeds £70,000,000 a year, while the average cost of each prescription is more than 7s. Not only is this expenditure alarmingly high, it is increasing ominously year by year: it has doubled in the course of eight years. Can it mean that lives have been saved, or health recaptured, at a corresponding rate during the same period, or does it mean that the nation is being over-drugged?

Before the National Health Service came into being the dispensing of expensive medicines was inhibited by the patient's inability, or unwillingness, to afford them. This deterrent has now been removed, and no one, least of all the patient, gives a thought to the question of expense. To reduce the exorbitant drug bill—and allow the savings to be diverted to the building of new hospitals, improving the lot of sick people in their homes, and as aid to research work—either the dispensing of medicines must be curtailed or their cost substantially reduced. A resolve not to prescribe expensive proprietary remedies when cheaper preparations containing the same active ingredients are available, and are listed in the *British Pharmacopoeia*, could contribute materially to a reduction in the national drug bill. Thus Davidson and Richmond,¹ of Edinburgh, examined the cost of oral preparations of iron in family and hospital practice, and found that if ferrous sulphate were prescribed in preference to ferrous gluconate and ferrous succinate the saving to the N.H.S. in Scotland alone would be in the region of £40,000 a year. Again, at the London Hospital in one year, and in the case of

only 14 simple remedies, a saving of £3,900 was effected through prescribing the official *B.P.* preparation in lieu of its proprietary equivalent.

Wrongs of Medicinal Therapy

In every doctor there resides the urge to get his patient better. Should he fail in his endeavour he is apt to regard himself as blameworthy, for he has surrendered his function as a healer. To heal is to treat, and how else is the physician to treat an illness except through dispensing medicines? Medicines are his tools, and he feels he should use them. Such steadfast belief has bred an unwarranted faith in them, often preventing a useful acquaintance with the natural history of an illness in the absence of any form of medication and the observation during it of “vis medicatrix naturae.”

Although the suppression of quackery is most desirable we should none the less be aware of its immortality. A misdirected faith in the abstract, and a half-belief in quackery and superstitions, may not be openly confessed, but they are still deeply ingrained both in those who take and in those who give medicines.

PRODIGIOUS CATALOGUE OF DRUGS

The *Monthly Index of Medical Specialties* (M.I.M.S.), which names the preparations used in general practice in this country, lists 1,954 such medicines supplied by the proprietary drug firms. It is claimed for many of them that they have no equivalent in the *B.P.* or the *National Formulary*. This lavish register of medicaments is evidence of the unquenchable thirst for mixtures and potions, and the insatiable appetite for pills and tablets, exhibited by the public. Credulity in the power of medicines to do good knows no bounds. Such confirmed addiction by the “philopysic,” a product of twentieth century expansion of the drug industry, though largely self-inflicted, has been contracted with the connivance of the medical profession, which has remained wholly passive as the contagious affliction spreads.

How many of these 1,954 medicines can we do without? Indeed, how many of them do we need? In a contemporary radio programme contributors are invited to name eight gramophone records they would wish to have with them if cast away on a desert island. We might pose the same question, substituting eight medicines for eight records. Presumably the list would include morphine, digitalis, quinine, aspirin, an antacid, a multi-service antibiotic, insulin, and glyceryl trinitrate. Has any other a strong claim for inclusion apart from iron or alcohol? (Perhaps anticoagulants stake a claim on the grounds that the island might be rat-infested.)

Naturally, the wrongs wrought in the course of prescribing toxic drugs have greater consequence than those met with in the case of the less harmful medicines, and these might be considered separately.

ADDICTION TO THE MORE INNOCENT MEDICINES

The prescribing of a placebo tablet or mixture on occasion has a praiseworthy object. It can pass on to a patient emerging from an illness and entering convalescence a much needed stimulus. It will fail dismally, however, if given for long, for it is meant to help him regain confidence and his erstwhile self-reliance. It can do this only so long as the therapeutic period coincides with the period of natural recovery.

*Part of a lecture given to the Winchester Division of the British Medical Association in February, 1962.

Although these innocent potions lack substantive action they preside satisfactorily over a period of time which allows the physician to watch the natural progress of an illness. During such periods the healing properties of coloured water have caused amazement, and from these repeated experiences was born the axiom that it is better to do nothing than something when nothing needs to be done.

It is the perpetuation of these more innocent preparations or lullaby medicines that does harm, for it weakens rather than strengthens a patient's resolve to stand on his own and without the aid of any spurious accoutrement. Indeed, we appear to have parted from the advice given by John Dryden in 1680—

"Better to hunt in fields, for health unbought,
Than fee the doctor for a nauseous draught."

These medicines, paraded as sleeping-tablets, pain relievers, sedatives, tranquilizers, euphorants, stimulants, and tonics, are further exalted by proprietary drug firms when apostrophized by swell names and marketed in attractive shapes, colours, and containers. This assortment, often portraying a single preparation in a dozen guises, supplies proof that much of medicinal therapy is governed by the commercial and the financial instead of the scientific and humanitarian. While an illness may compel a patient to visit the dispensary for medicine, fashion is what often cajoles a customer into the drug stores for a pill to suit his or her mood, be it mordant or morbid.

THE NEWER TOXIC DRUGS

The more potent drugs which have displaced the innocent medicines in the treatment of many ailments frequently fail to relieve the symptoms which they are intended to control, and too often produce their own. One time such symptoms, arising in the course of "diversionary treatment" where the symptoms of a disease might be masked by the more noticeable ill-effects of medication, were regarded by the unwary patient as natural for his illness. But nowadays an informed laity may not be so readily hoodwinked, and it is best that the profession should anticipate complaints on that account from an enlightened public and take immediate steps not to merit such criticism.

It has been said that this is the age of safe surgery and of dangerous medicine. Certainly the toxic effects that follow in the wake of many modern medicines not infrequently give rise to anxiety and even to alarm. Several factors contribute to this, but at the root of them all there lies a failure to appreciate the drug's full properties and pharmacological action in man by the research chemist, clinical assessor if there has been one, and the therapist.

THE HYPOTENSIVE DRUGS

The growth of proprietary drug houses during recent years has been prodigious both in regard to their size and their activities. These establishments have become firmly knit into the fabric of medicine. The profession has to acknowledge this participation, and should work to ensure a partnership which could contribute immeasurably to the advancement of research work in medicine founded on sound scientific premises. In the meantime the drug houses can claim to their credit that they have outclassed the achievements of the medical profession in the field of pharmacology.

None the less they have placed on the market a number of menacing drugs which though possessing a correct pharmacological action have proved injurious when prescribed to patients, so that their clinical assay before being marketed has been inadequate. Moreover, the distribution of these drugs has been effected by over-zealous salesmanship. Nowhere has this been more noticeable than in the case of the so-called hypotensive drugs. Thus in my time I have known fifty-eight remedies soundly recommended in turn in the treatment of systemic hypertension. The earlier ones, though failing to do good, did no harm, but latterly the more potent drugs have produced uncomfortable and often distressing side-effects; among these have been nasal stuffiness, conjunctivitis, muscular pain, skin eruptions, swelling of joints, lupus erythematosus, agitation, depressive psychosis, suppression of urine, dissecting aneurysm, and paralytic ileus.

The discontinuation of these powerful drugs is overdue, for they are meant only to subdue the blood-pressure, and have no effect on the cause of hypertension, which resides in the small arteries of the kidney in the form of occluding intimal proliferation. Such drugs have not succeeded in prolonging life nor in allaying symptoms which could not be done by simpler means, and which took place before their advent.

ANTICOAGULANTS

Nothing can more certainly shepherd us into the wilderness of ambiguity, both in regard to the cause of a disease and the agents likely to prevent or cure it, than implicit reliance on information about these things gleaned from statistics. It should be known that in medicine at least, where problems present so many variants, the considered opinion of a well-informed clinician can better contribute to their solution than statistics. The history of the treatment of coronary arterial disease by anticoagulants stands monument to this truth. Thus an opinion enunciated at the Royal Society of Medicine eight years ago²—"that anticoagulant treatment in coronary occlusion will go the way of other discarded remedies is certain; let it go soon, let it go now, before remorse weighs too heavily on those who may continue for a little time longer to advocate its use"—was not just a prophetic hunch, but a statement founded on scientific premises based on the assembly of four facts. First, a comparison of the mortality rate in two series of patients with cardiac pain from coronary arterial disease, the one receiving no specific treatment and the other undergoing anticoagulant therapy, had shown no significant difference. Secondly, the failure to discover thrombosis at necropsy in more than half the cases of cardiac infarction. Thirdly, the observation in fatal cases of the ravages caused by atherosclerosis of the coronary arteries and its injurious effects on the myocardium. Fourthly, the certain knowledge that no blood-thinning medicine can ever prevent clotting in coronary arteries occluded by such unalterable disease. In the meantime an exorbitant sum of money has been expended in organizing special clinics, manned by medical personnel, including pathologists engaged in estimations of prothrombin blood levels, and all this in respect of a drug which is not expected to have saved a single life but which is known to have caused deaths when bleeding has taken place all too frequently into vital tissues like the brain.

Need for Trenchant Amendments

In the light of experience, and from what has been said, a need long apparent demands to be fulfilled, and through the efforts of the profession, before a plan is foisted on it by a lay authority. Suggestions are now made as to how this can best be implemented.

THROUGH MEDICAL EDUCATION

In the school curriculum of the medical student more emphasis should be given to the prevailing dangers arising from the too-ready acceptance of the action and clinical value of medicines conveyed through the pressing salesmanship by representatives of drug houses, or conveyed in colourful advertisements which arrive by mail at unwarranted prodigious cost. Lecturers in pharmacology should inform the student of the criteria demanded before acknowledging the claims of any medicine to benefit or cure any illness. Moreover, he should be acquainted with the clinical states that are likely to respond to medicinal therapy such as infections, certain metabolic and endocrine disorders, and spastic states involving plain muscle, and should receive special warning of the total inability of mere medicines to influence the gross and diffuse anatomical changes which occlude arteries such as the coronary arteries in cardiac infarction, the renal arteries in systemic hypertension, and the peripheral arteries causing intermittent claudication.

Education of the public in an endeavour to hinder and halt the present wholesale abuse of the purchase of medicaments not requiring a physician's prescription is a more difficult task, and will not readily yield to a solution, but a start on such a campaign should be made.

NATIONAL THERAPEUTIC TRIALS TRIBUNAL

The prolific output of new medicines has now reached such dimensions as to render paltry any longer investigations conducted on a parochial scale with its limited scope. The immensity of the problem demands a national organization. The profession should stir quickly to undertake its newer responsibilities lest it yields them irretrievably to some other, and probably commercial, body. The project is not a difficult one to achieve, and its fulfilment would be rewarding, for it would ensure economy, efficiency, and safety in the prescribing of medicines, and would establish for all time a gainful standard in scientific therapeutics. The greatest need in therapeutics to-day is a national scheme whereby the claims made on behalf of any medicine can be convincingly tested before the product becomes marketable. Should a new preparation following laboratory and animal experimentation appear to justify its clinical use its premature release without a controlled clinical trial is indefensible, and should not be allowed to happen.

Such a national tribunal, with duties and powers comparable with those of the Food and Drug Administration in the United States, presumably would be set up by the General Medical Council in close co-operation with the Medical Research Council and in consultation with the B.M.A. To this body would be submitted every new drug before it is marketed, and the tribunal would allocate the work connected with such testing and clinical assay to personnel and departments suitably equipped to conduct the investigation. This plan would

conform to that so successfully adopted in estimating the value of penicillin in the treatment of streptococcal endocarditis, and of drugs used in the control of tuberculosis. The tribunal would set a standard of proficiency which each drug must attain before its release for general use. It has been set down² that such a "code of efficiency" would require, first, that the medicine under trial must produce notable improvement in a preponderant majority of patients with a disease or symptoms which the remedy is reputed to alleviate; secondly, such improvement should never be less, and be constantly much greater, than that produced by a placebo; thirdly, the drug under trial should never, in a dosage considered adequate to produce benefit, initiate injurious symptoms.

The body chosen to organize and direct such clinical trials should be invested with authority to act on their findings, and so must be faultless in its constitution. It should include chemists and pharmacologists who would trace any toxic reaction in both animal and man; trained statisticians who would plan the trials and take special care to evaluate the subjective symptoms of patients; and clinicians of acknowledged experience—for wisdom does not go out of the door at the age of 65, and although this were better said by someone short of this age the truth is a lasting one, fall as it may from any lips.

JOINT RESEARCH

For some years research workers in the laboratories of manufacturing chemists have increased enormously both in their numbers and in their activities. They have organized adequate facilities to synthesize their products and to test them in animals, but they have lacked that worthwhile close association with the clinician who alone can assess the value of a medicine intended to relieve a particular illness in man. On the other hand, in hospitals where the clinician works and has at his disposal the means for the clinical assay of drugs the services of a first-class team of research chemists are too often missing, and the pharmacological department is primarily concerned with introducing medical students into the ways of pharmacological experiments.

Surely the right step to take is to bring together these two groups of workers, establishing between them a firm liaison, and cement their efforts. This could be achieved through the appointment of research chemists now isolated in the laboratories of the proprietary drug houses to the pharmacological departments of the larger hospitals. Incidentally, the profits of the drug firms accrued from the sale of their medicinal products, now in part squandered lavishly on wild advertisements, could be allocated to the expansion and upkeep of the hospital's pharmacological department.

Hutchison's Affirmation

While the organization of more reliable methods to ensure the safety and the explicit action of a drug when prescribed in the treatment of disease is awaited, the country's doctors would do well to heed the prayer which Sir Robert Hutchison once uttered in a lecture room in my hospital:

"From inability to leave well alone, from too much zeal for what is new and contempt for what is old, from putting knowledge before wisdom, service before art, cleverness before common sense, from treating

patients as cases, and from making the care of a disease more grievous than its endurance, Good Lord, deliver us."

These sound precepts, condensed in so small a space, stand monument to the memory of a great clinician who conducted no extravagant tests in the investigation of an illness, nor gave any medicines of unproved worth in its treatment. We should not surrender in the second half of the century the ethics of scientific therapeutics established during its first half. There are undesirable signs that we are giving way, and we should move quickly to build up our defences, knowing that the victory of to-morrow depends on the way we use the opportunities of to-day.

REFERENCES

- ¹ Davidson, S., and Richmond, J., *Lancet*, 1958, 2, 570.
- ² Evans, W., *Proc. roy. Soc. Med.*, 1954, 47, 318.

ALCOHOL AND ROAD ACCIDENTS

(Continued)

The opening proceedings and the first plenary session of the Third International Conference on Alcohol and Road Traffic, held at B.M.A. House from September 4 to 7, was reported last week.

Police Procedure

In the second plenary session Sir JOSEPH SIMPSON, Commissioner of the Metropolitan Police, read a paper entitled "Police Procedure in Relation to the Drinking Driver." He emphasized that the medical examination of a driver suspected of being under the influence of drink did not take place until some time after his arrival at the police station, possibly even two hours. In the Metropolitan Police the station officer had to make up his mind on the evidence available to accept or refuse a charge before the arrival of a surgeon, except in difficult cases. He emphasized that the police officer was experienced in dealing with drink cases and that the station officer was even more experienced and was unlikely to accept a charge without evidence.

Blood samples were seldom taken, for a number of reasons, not least of which was the uncertainty about liability for assault even if consent were purported to have been given. There was no law in Britain which authorized a medical examination, let alone the taking of samples, and if the person refused a normal clinical examination all that the surgeon could do was to observe his conduct without any form of physical contact. No one in authority had been satisfied so far that breath-analysing apparatus had been perfected sufficiently for quantitative evidential purposes in courts in this country. But for over 25 years to an increasing degree urine samples had been obtained with consent.

The 1962 British Act made some advance in the recognition of evidence of blood-alcohol content. It provided that a court should have regard to evidence of the proportional quantity of alcohol or drug contained in the blood or body of the accused as ascertained from a sample of his blood, urine, or breath, and it left the whole field open for a more enlightened acceptance of the breathalyser. While it did not make it compulsory for the accused to provide a sample, it laid down that refusal to consent might be treated as supporting any evidence given about fitness at the time.

Unreliability of Statistics

Mr. R. ANDREASSON, general secretary of the International Abstaining Motorists' Association, Sweden, said that international surveys showed that present official statistics on drunken driving were almost irrelevant to the problem. For example, it was absurd to suggest, as official figures did, that there were 50 times more drunken drivers per 100,000 of the population in Stockholm than in New York or that there were only nine drunken drivers in a year in Rome compared with 2,600 in Hamburg. Because of the unreliability of statistics, an international comparison of traffic accidents caused by alcohol could not be made.

Sir ARTHUR L. GOODHART, Master, University College, Oxford, said that the number of accidents due to driving when unfit through drink was much greater than had been suggested by Home Office statistics. The problem would not be met in Britain until it was an offence to drive while having more than a certain percentage of alcohol in the blood. No pilot would fly an aeroplane after six double whiskies—and certainly no passenger would fly with a pilot who had drunk so much. Indeed, 50 airlines, including every important line, had a rule that no pilot should drink alcohol within eight hours of a flight. He believed that the major arguments advanced against compulsory blood tests in this country were invalid.

Professor JOHN COHEN, Professor of Psychology, University of Manchester, said that after a driver had taken drink the important question was not how much skill he retained—some retained a high degree of skill—but the effect on his judgment. He could still do many things, but his judgment told him that he could do even more. No Government suggested that the application of the speed limit should depend on the skill of the individual driver, but this argument was applied to drink. He said that car drivers must not regard a safety belt as a good-luck talisman. Drivers tended to regard speed as a status symbol, and their errors of judgment increased with alcohol.

Legal Aspects

Professor JOHN C. SMITH, Professor of Law, Nottingham University, said that under the new Act of Parliament it would still be possible for a jury to find that the ability of the driver had not been impaired by drink. All the difficulties would disappear if the blood-alcohol test were introduced in place of the vague test of ability to drive properly. Among the arguments against this was the suggestion that people would feel that it was safe to drink up to the level laid down by Statute, whereas this might not necessarily be the case. It would also become very difficult to obtain a conviction against a driver who had drunk less than the statutory limit, even though his abilities were considerably impaired. But the fact remained that the reforms introduced by the Act did not go to the root of the difficulty. If the alcohol-level limit were fixed statutorily, in the present state of British public opinion it might have to be dangerously high. He suggested that the solution might be to have a completely new type of offence, carrying a lower degree of criminality.

Mr. V. SURRELL, assistant director and manager of the legal department of the Abstaining Motorists' Association, Sweden, dealing with the application of the law in Sweden regarding alcohol and traffic, said that in Sweden a driver could automatically be sentenced