fibrillation might be produced. The importance of a long low-reading thermometer was also emphasized. It had to be passed to a length of 10 cm to have an accurate reading. The practice of hyperventilation before diving was common in children and was questioned by the audience. The experts advised against it, since it could cause

loss of consciousness and negative buoyancy.

For cases of decompression syndrome advice on how to contact the Navy in emergency was given. The Superintendent of Diving (0705-2231) was always available to inform doctors of the nearest available treatment centre.

10% of medical complaints, the rest being due to virus infections, sunburn, insect bites, and other troubles.

Those attending this conference appeared to have come to seek answers to specific problems such as acute torticollis, which Mr. Brett said hospital doctors seldom saw; foreign bodies in the foot—particularly gumboot rubber driven in by a nail, the track of which should be explored and the rubber primarily removed; and tennis elbow. This condition did reach hospital if it did not resolve quickly but was not clearly understood. Mr. Horn thought that being put on the waiting list was good treatment as the time for healing could be achieved without unnecessary intervention.

Finally the meeting divided between those who used plaster casts for sprained ankles and those who used extension-inversion strapping, which allowed good plantar flexion and dorsiflexion. For recurrent inversion injuries of the ankle Mr. Brett emphasized that there was an easy reconstruction operation which gave good results and which orthopaedic surgeons therefore liked to do. As Mr. Moynihan and Mr. Horn agreed with this, the session closed on a harmonious note.

Minor Injuries

Thursday, 27 July

The round table conference on minor injuries was chaired by Mr. F. J. MOYNIHAN (Winchester). Mr. M. S. BRETT (Salisbury) declared that minor injuries could have major implications and that doctors often had a part in producing disability. This was done by failing to take a good history and not seeking relevant points, by attaching diagnostic labels, by failing to relieve pain, and by failing to reassure. "Constant clinical awareness" was needed to be ready for unusual injuries and this was developed by attending meetings and exchanging ex-

periences. Doctors could also prevent the patient from getting good treatment by using investigations, especially x-rays, unintelligently. Mr. Brett illustrated some recent minor injury problems pictorially before handing over to Mr. C. V. HORN (Basingstoke), who discussed sports injuries. He said that 30% occurred in soccer players and were the result of direct or indirect trauma, while running came next with damage usually due to overuse. Eighty per cent. of injuries were muscular, and 35% involved joints while only 2% had bony damage. At the 1968 Olympic Games it had been interesting that sports injuries accounted for only

Photographs by H. J. Wood, Southampton

Report continued next week

Emotional Problems in Childhood and Adolescence

Chemotherapy in Child Psychiatry

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The discovery of the so-called psychopharmaceutical drugs led to remarkable progress both in the theory and in the practice of general psychiatry. Before discussing the use of these drugs in the child it is, I think, worthwhile to review our present-day knowledge of their properties and uses.

There are three main classes of psychopharmaceutical drugs.¹ Firstly, "true" neuroleptics, which are active in mania, and in acute and (to a lesser extent) chronic schizophrenia, and in states of agitation. These include the phenothiazines, reserpine, and butyrophenones (haloperidol and similar compounds). A fourth type of drug, sulpiride (Dogmatil), is unusual in combining neuroleptic and antidepressant properties.

The second class of psychopharmaceutical drugs comprise the antidepressants of which there are two main groups—the tricyclic antidepressants (imipramine and closely related compounds) and monoamine oxidase inhibitors. Their main clinical target is melancholia and, to a lesser extent, neurotic depression. Thirdly, anxiolytics or "true" tranquilizers (I consider the use of this word for the whole range of psychopharmaceuticals as inappropriate), which again are subdivided

into two categories—namely, meprobamate and benzodiazepines (not to be confused with the dibenzazepines, which are the tricyclic antidepressants). Except for their use in epilepsy, anxiolytics are minor therapeutic agents; their main indication is to alleviate anxiety.

To these three groups we must add various hypnotic drugs; antiepileptic drugs; and amphetamine and amphetamine-like substances. (May I add as an outsider that I find it very unfortunate that such a rich and diversified language as English should use the same word for medicines and "true" drugs, such as L.S.D. This leads to ambiguity in the lay mind and jeopardizes our therapeutic work.)

Therapeutic Relationship

Finally, there is another aspect of the use of psychopharmaceutical agents; they must be inserted into a therapeutic relation. I certainly would not agree with the late Michael Balint when he claims that the doctor is himself the most efficient drug he can prescribe, but a psychopharmaceutical substance should never be imposed upon the patient as a purely mechanical tool.

To what extent and how can we apply our knowledge of psychotherapeutic agents to child psychiatry? Do we find in this age group mental illnesses similar to those in the adult that can be favourably influenced by modern chemotherapy? The answer is "no." Children do not suffer from the equivalent of schizophrenia, with the possible exception of late onset psycho-

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sis.² Infantile autism, is, most authorities believe, a radically different malady, scarcely influenced by chemotherapy. I personally do not believe that manic-depressive conditions are frequent in childhood. Depressive states, of course, do occur but they seem to be closer to grief reactions or, at most, to neurotic depression and I find it depressing to think that children are given drugs from an early age to cope with life's sadness. Severe manic and melancholic episodes are found in adolescents; but very often these are a disguised form of schizophrenia whose features have been changed by unconsidered use of antidepressants. All this does not mean that we must give up chemotherapy in child psychiatry completely but that we have to remember that the field is radically different from its adult model.

Compared with the adult patient the child brought to a psychiatrist does not usually suffer from his "illness," or from his symptoms; except in the case of anxiety (whether free-floating or crystallized in a phobia) the child is not asking for help—or at least not for chemical help. He may even resent it; he considers it as a punishment, or as an attempt to force him to comply in the emotional conflict. Moreover, presentday children are very much against medicines; teenagers tend to consider psychopharmaceutical compounds as endangering their freedom, while the true, psychodysleptic drugs are the vehicle of liberation.

Side Effects

The child resents the side effects of psychotherapeutic agents even more than the adult, because he will not concede that they represent a kind of tax paid on the beneficial action of medicine. Moreover, many antiepileptic drugs, neuroleptics, and anxiolytics, may lead to drowsiness and interfere with his scholastic achievements.

The physical reactions of children and especially of young children to various drugs cannot be predicted, but no one should use the agents without a sound knowledge of their possible side and toxic effects and also interactions. One of the commonest types of side effects are extrapyramidal syndromes in children receiving neuroleptics, while phenothiazines may induce convulsions. Overuse of neuroleptics may lead to severe vascular collapse,³ particularly in the presence of infection or injury. Pancytopenia has been reported in a 14-year-old girl treated with 400 to 800 mg of chlorpromazine per day, and death in a 4-year-old child treated with amitriptyline, and in another treated with a combination of tranlycypromine and trifluoperazine.

We do not yet know whether chlorpromazine and similar compounds have any adverse effect on the growing organism, especially on the immature gonads. Certainly in adults most of the neuroleptics can induce galactorrhoea, amenorrhoea, and impotence or frigidity. A recent Soviet paper reported diabetes insipidus in some patients who had been treated with high doses of butyrophenones. We know that drug therapy has no preventive action against the development of mental disease in adult life, and possibly it may have unfavourable effects upon biological development.

Clinical Use

Three types of situations relatively frequently encountered in child psychiatry may benefit from a cautious use of psychopharmaceutical compounds.

RESTLESSNESS

Restlessness is a very broad term, encompassing entirely different conditions. Firstly, I am strongly against treating the "normal restless" child with drugs at all, though sometimes when it is impossible to avoid prescribing something mild sedatives, such as barbiturates (up to 0.01 g three times a day) or diazepam can be used; they will not be very efficient, but at least they are not harmful.

Secondly, the brain-damaged restless child may need treatment. Personally, I have never used amphetamines for these children, mainly because of the danger of further addiction; we are now seeing addicts in early teenagers who were treated with these substances. On the other hand, Lourie⁵ considers that amphetamines are specific for this group of patients and Eisenberg⁶ thinks that they improve the cortical inhibition of subcortical impulses.

Thirdly, behaviour difficulties in the epileptic child will not be improved by increasing the dose of anticonvulsants; they will be made worse. Here again amphetamine may be added to barbiturates or other anticonvulsants, or one can use either diazepam, or phenothiazines such as propericiazine.⁷ Lastly, Connell *et al.*⁸ have shown that butyrophenone was more efficient than diazepam and that it could control Gilles de la Tourette's syndrome. Caution is necessary in giving any of these agents, and it is advisable to give neuroleptics intermittently to avoid serious side effects.

ENURESIS

The most efficient agent for treating enuresis is imipramine and similar compounds. In adults the tricyclic antidepressants may produce urinary retention, so they probably have an inhibitory effect upon the bladder musculature, as well as an action on the sleep pattern.

Conclusions

Chemotherapy in child psychiatry has proved itself less dramatically useful than in adult psychiatry. This is because we are dealing with different clinical situations and because children's reactions to drugs are often unpredictable and the greatest caution has to be taken. Nevertheless, neuroleptics and tranquillizers may be helpful for controlling restlessness; but we still do not know whether amphetamines are as innocuous as some people make out. Diazepam and chlordinazepoxide can relieve anxiety and put an end to school phobia, and, finally, tricyclic antidepressants can cure enuresis.

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