48 hours later, but next day (December 2) the probability of pulmonary oedema was more apparent. The heart sounds were now loudly slapping and the presystolic murmur was unusually harsh. A most noticeable feature was the obvious pulsation of the right ventricle and pulmonary artery, causing a parasternal lift of exceptional degree. This was a warning of the likelihood of pulmonary oedema—particularly, we believed, in the event of the resumption of labour. Some impairment of air entry in the base of the left lung was obvious for about two days, but by now increasing consolidation was apparent. This was an added complication and appeared to be uninfluenced by the antibiotics administered. In view of the patient's steady deterioration valvotomy as an urgent measure was advised.

The operation was performed uneventfully three days after admission. The lower lobe of the left lung showed considerable congestion when the thorax was opened, but this did not interfere with the surgical manipulations. The left auricular appendage was large and free of clot, and was dealt with in the routine manner. As expected, the valve was tight, but both commissures separated without difficulty. The pulmonary artery was large and tense at first, but less so towards the end of the operation. The patient was returned to the ward in a satisfactory condition, and after a short labour a live infant, weighing 8 lb. 4 oz. (3.7 kg.), was born 10 hours later without difficulty or distress to the mother.

She had more than the usual post-operative cough and sputum from the residual congestion and atelectasis of the left lower lobe. These symptoms, however, responded within a few weeks to antibiotics and symptomatic treatment. Her convalescence was otherwise quite uneventful, and she was discharged on December 31.

She has since been seen by us. Her general condition seems to be quite good, and there is considerable modification of the physical signs in her heart, the mid-diastolic bruit being shorter and audible only when she is lying on her left side. She is leading a normal active life, as she was before the start of her last pregnancy.

Comment

This case history illustrates the value of mitral valvotomy as an emergency procedure during the later months of pregnancy. The presence of moderate anaemia and of long-standing persistent coughing undoubtedly played an important part in this patient's final and irreversible deterioration. It is unlikely that valvotomy at this stage would have been necessary in the absence of these influences, and we are of the opinion that the avoidance of such important aggravating factors during pregnancy should almost preclude the necessity for operation at such a late stage. There is, however, still a definite indication for valvotomy in the early months of pregnancy in properly selected patients.

We are indebted to Dr. J. K. Feeney, Master of the Coombe Lying-in Hospital, under whose care this patient was admitted, for his advice on the obstetrical problem, and for the facilities afforded in his hospital; to Dr. M. I. Drury, consulting cardiologist, National Maternity Hospital, Dr. R. Davys, anaesthetist, and Mr. J. G. Maher, assistant surgeon, St. Vincent's Hospital, Dublin, for their invaluable assistance.

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RESERPINE IN TREATMENT OF CHRONIC PSYCHOTICS PRELIMINARY OBSERVATIONS

BY

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Recent work in America (Kline, 1954) on the treatment of psychotics with rauwolfia and its alkaloids suggests that the ancient Indian belief in the value of this root in the treatment of mental illness was well based. In view of that work it was decided to try the effect of this drug on a group of chronically mentally ill patients. The group, a small one of 32 male patients, consisted of 26 schizophrenics, 4 cases of schizophrenia superimposed on basic mental defectiveness, 1 chronic melancholic, and 1 with arrested G.P.I. The patients varied in the date of their admission to hospital from 1912 to 1952, all but six having been in this hospital for over five years.

They were segregated into a section of one of the wards for mentally disturbed males under a senior nurse, and it was arranged that their nursing care should be, so far as possible, maintained by the same nurses.

In choosing the patients for this test, only those in a satisfactory physical state were included, and all showed behaviour problems. Thus 11 were noted to be destructive, 13 were faulty in their habits, 11 were liable to impulsive violence, 4 required regular spoon-feeding, and others needed considerable prompting and occasional spoon-feeding with their meals. All 32 were unoccupiable. The degree of destructiveness among these patients was great. One of them, the most destructive in the hospital, destroyed on an average one blanket a night and one mattress a week, and had started to gnaw the wood on his bed.

Procedure

Initially, six patients were treated with reserpine ("serpasil"), being given 1 mg. four times a day, which seemed to be the dose most commonly used by the American authorities. In view of its known hypotensive effect, daily blood-pressure readings were taken on all patients for the five-months period of the trial. In addition four-hourly temperature and pulse rates were charted at first, but, as no significant findings were noted, these were later reduced to morning and evening readings. The hypotensive effect was variable: whereas most patients showed an initial small drop, in one or two the blood pressure fell considerably. Readings of 60/50 and 64/46 were obtained in two cases. These low blood-pressure readings were not found until the patients had been on reserpine for more than two weeks, and in both cases they were symptomless. Their occurrence, however, suggests the importance of regular blood-pressure readings when patients are first treated with this drug. The blood pressure in both these cases later returned to normal on a slightly smaller dose. Following this, it was decided to start with smaller amounts, and 0.5 mg. three times a day became the initial dose. The dose was constantly under review in all cases, and from the experience gained it seems that there is no fixed dose, though it was found that the effective dose varied from 0.5 to 1 mg. four times a day. In all cases the drug was administered by mouth.

Results

In one case the maximum improvement was noted when one dose was given during the night. Without this dose the patient's condition relapsed during the night, but he rapidly

"When should baby wear shoes?" This is typical of the questions answered in *Our Children's Feet*, a pamphlet for parents issued by the Foot Health Educational Bureau of the Central Council for Health Education, Tavistock House, Tavistock Square, London, W.C.1 (price, 6d.).

improved after his morning dose. In the cases that responded to reserpine some sign of improvement was usually noted between the first and second weeks of treatment, but several showed definite improvement within three days, while others were unchanged for three months and then improved.

The results of the treatment in the first small group of six patients were most encouraging. The highly destructive and degraded patient mentioned above became clean and tidy, and lost his destructive habits within four days of being put on reserpine; and others of this group showed comparable improvement.

Other patients suffering from chronic psychosis were added to the series, and the effect of the drug on them compared with the rest of the ward was most marked. The reserpine patients became quiet and co-operative; impulsive actions and destructiveness disappeared; they fed themselves at meals, and helped each other at the table, in marked contrast to their former habits and those of the untreated patients in the ward. Occupational therapy classes were started, and 20 of the 32 patients were regularly employed in these sessions; 12 of these also did some form of useful work in tidying the ward, etc.

The main difference in the patients under reserpine, apart from the disappearance of the antisocial behaviour, was their receptivity to ideas and suggestions, whereas previously such suggestions had had no effect. Considerable prompting was needed to start occupational therapy and to improve table manners, but, once accepted by the patient, they were maintained.

Appetite was greatly increased and difficulties with feeding disappeared. The dietary had to be increased, as the normal amount did not satisfy their appetites. One patient, who used to stick his fingers down his throat and vomit after food, completely lost this habit and took his meals normally. Weight increase was variable, but the 32 patients, who were all weighed weekly, gained an average of 6 lb. (2.7 kg.).

Many patients now enjoy cinema shows, patients' dances, and other recreations, whereas previously they were not thought suitable for such activities.

Of the 32 patients, 4 were regarded as greatly improved, 14 much improved, 9 slightly improved, 3 not improved, and 2 worse. (The 5 patients who did not improve were 3 schizophrenics, 1 chronic melancholic, and 1 G.P.I.)

Combination with other Forms of Therapy

One schizophrenic of five years' standing, who had been mute, hallucinated, incontinent, and utterly detached, became more alert, tidy in appearance, but still would not speak. He was given a short course of electric convulsion therapy, and promptly spoke normally and rationally, and for a time appeared to be making an amazing remission. This remission was, however, only temporary, and he again became mute and withdrawn. He was then started on insulin therapy, the reserpine being maintained while he was receiving subcoma doses of insulin. Some response has been noted, but not to a degree comparable to that previously found.

Side-Effects

Some drowsiness was noted with the higher doses, but this could be successfully combated by small doses of amphetamine sulphate. Little difficulty was experienced with looseness of the bowels, which was only transient when it did occur. Stiffness of the nose was noted in a few cases, but caused no great inconvenience.

Three cases developed oedema—in two, of the legs only, but in one of the face as well as the legs. These cases were carefully investigated. A cardiovascular or renal origin for the oedema was excluded. Estimation of blood urea, protein, albumin, globulin, thymol turbidity, alkaline phosphatase, van den Bergh, bile, serum sodium, serum potassium, and serum chlorides, together with complete blood counts, gave normal results. The occurrence of

oedema has been noted in Switzerland (C. Dale Falconer, personal communication). Gaunt *et al.* (1954), writing on the endocrine aspects of the pharmacology of reserpine, suggest that the drug stimulates the release of an anti-diuretic hormone in the posterior pituitary in rats, and this may possibly be the mechanism of the oedema production in these cases.

Opinion

While this group is too small to allow of a dogmatic opinion, the results obtained strongly suggest that reserpine has brought about a marked change in a ward consisting mainly of long-standing schizophrenic patients with gross behaviour disorders. The change in the nursing staff's work is most pronounced. Instead of custodial care, there is now considerable scope for active rehabilitation, with, as a result, increasing interest and enthusiasm in the work. Another striking point is the reduction in the amount of bed-linen and clothing destroyed by patients. Finally, the disappearance of incontinence among this group has been most dramatic; and this, combined with improvements in behaviour, encourages one to hope that such patients may in future be nursed in better wards, with greater amenities.

Summary

Thirty-two chronic mentally disturbed patients were treated with reserpine for periods of up to five months.

In the great majority, considerable improvement was noted in their habits and personal appearance and in their ability to occupy themselves. Impulsiveness and incontinence disappeared. A marked quietening effect was noted. Even those patients showing definite signs of dementia were superficially improved. Side-effects were slight, and occurred in only a few cases. Most patients who are going to respond show signs of this within a week or two, but some were on the drug for three months before definite improvement was noted. It is therefore suggested that, unless the patient's condition deteriorates, the method should be given at least a three-months trial.

The promising results obtained in this small sample of mentally disturbed patients suggest that an extensive trial of reserpine in psychotics of more recent onset should be made.

It seems to be important to make full use of occupational and recreational therapy so as to provide the stimulus for activities which the drug appears to permit.

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The Annual Report for 1954 of the department of rheumatology at the Royal Free Hospital comments on the reduction in the length of stay in hospital of patients who are admitted for the treatment of rheumatic diseases. This applies to all the disorders in the rheumatic group of diseases except osteoarthritis. In the case of rheumatoid arthritis, for instance, the average stay in 1954 was 48 days, compared with 61 days in 1953, and for ankylosing spondylitis the average stay in hospital was reduced from 63 in 1953 to 35 days in 1954. This reduction in hospitalization, the report remarks, is largely due to the more plentiful supply of hydrocortisone, which has enabled the department to treat isolated peripheral joints more effectively, and to the policy of using long-term hormone therapy in those cases which have failed to respond to other available forms of treatment.