METHYLPHENIDATE ("RITALIN"): AN ADJUNCT TO PSYCHOTHERAPY

By

ROBERT A. BLAIR, M.B., Ch.B., F.R.F.P.S.G.
Medical Superintendent
Springfield Hospital, Manchester

SUSANNE SHAFAR, M.B., Ch.B., D.P.M.
Assistant Psychiatrist
Crumpsall Hospital, Manchester

and

JURAND A. KRAWIECKI, M.B., Ch.B., D.P.M.
Deputy Medical Superintendent
Springfield Hospital, Manchester

THE authors have independently used drug-aided psychotherapeutic techniques. Some good results were being obtained but we were not entirely satisfied with existing agents. The first few applications of parenteral "Ritalin" appeared promising and prompted the work on which this paper is based.

The literature on drug-aided psychotherapy is considerable. The introduction of barbiturates led a number of psychiatrists to use these drugs in psychotherapeutic interviews (Lindeman, 1930; Wagner, 1933; Stockert, 1935; Horsley, 1936; and Campbell, 1938). Widespread interest in the technique was roused by the successful use of intravenous barbiturates in battle casualties, helping them to re-experience the violent emotions of battle and frequently leading to a relief of anxiety or hysterical symptoms. Sargant and Slater (1940, 1941), Debenham, Hill, Sargant and Slater (1941), Grinker and Spiegel (1943) were pioneers in this field.

As the war progressed, it was found that the more long-standing cases of conversion hysteria abreacted better with an excitatory agent such as ether (introduced by Palmer, 1945), intravenous methedrine (Simon and Taube, 1946), or carbon dioxide (Meduna, 1950). Shorvon and Sargant (1947) advanced the view that excitatory abreaction affords an analogy to observations made by Pavlov on dogs (Pavlov, 1942; Frolov, 1938), who found disruption of recently formed conditioned behaviour patterns when dogs were excited to the point of collapse, that is, cortical inhibition. In this state Pavlov found reconditioning possible only in dogs he had previously regarded as endowed with a stable nervous system, that is animals that were upset only with difficulty and maintained a healthy balance between excitation and inhibition. Shorvon and Sargant similarly found that in clinical practice patients were usually in an impressionable, suggestible state after a successful abreaction, but only those with basically stable personalities would retain and benefit from newly-implanted ideas.

It thus became evident soon after civilian practice came to the fore again, that treatment aiming only at excitatory abreaction would not be as useful in psychoneurotics whose symptoms were based less on isolated traumatic

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

incidents than on difficulties and conflicts within the personality. Shorvon and Sargant (1947) and Sargant and Slater (1954) found that severe chronic conversion hysterics and chronically anxious patients were frequently made more unstable by this procedure. In a discussion on abreaction, Garmany (1953) denied its value altogether, feeling that it may do harm by "stimulating the id when what the patient needs is support for the tottering super-ego". Obsessional neurotics were found to be entirely unsuitable for ether abreaction as they are much too rigid, and because of their tendency to intellectualize emotional experiences (Shorvon and Sargant, 1947; Shorvon, Rook and Wilkinson, 1950; Sargant and Slater, 1954).

Carbon dioxide was used with some success as an abreactive agent following Meduna's observations (Freeman, 1952; Jackman and Schorr, 1952; Moriarty, 1952; Clark, 1954). However, Hawkins and Tibbitts (1956), using a group of controls to whom compressed air was administered instead of carbon dioxide, found that there was no significant difference in the clinical results between the two groups. Also Shorvon (1953) felt that obsessionals and tension states may be made worse by carbon dioxide.

Intravenous methedrine as an aid to psychiatric diagnosis and therapy was introduced by Simon and Taube (1946). They drew attention to the facilitation of the flow of talk, during which patients disclosed previously unobtainable material, including latent delusions. Levine (1948) had further experience with this drug in 75 cases, and Shorvon, Rook and Wilkinson (1950) described their results in dermatological patients. The latter authors found that particular patients with obsessional trends, who did not abreact with ether, showed decrease in reserve and euphoria, punctuated by emotional outbursts. They concluded that the total effect is one of a prolonged moderate abreaction. Ling and Davis (1952) at Roffey Park and also Straker (1953) and Yanekian (1954) in America, have reported on methedrine interviews. They are agreed that this drug has an advantage over intravenous barbiturates and ether, in that the session takes place in full consciousness, the material so obtained being later available for interpretation. Painful and traumatic experiences were often abreacted violently with methedrine, accompanied by relief of tension. A facilitation of transference emotions frequently occurred. Further experience with methedrine led Shorvon (1953) to confirm its usefulness, particularly where a hysterical component was present, but like other authors he encountered some undesirable side-effects. These included dizziness, palpitations, nuchal and occipital pain, dryness of mouth and prolonged insomnia for one or two subsequent nights. Barbiturates often did not relieve this tension and restlessness, but on occasions served to precipitate a further emotional outburst. A prolonged hysterical reaction was noted in several patients. Brussel, Wilson and Shankel (1954) recorded one case of convulsions after methedrine interview, associated with theta bursts in the electroencephalogram lasting 48 hours.

More recently, two further compounds have been tried as adjuncts to psychotherapy. Hydroxydione (Presuren) was briefly described as being potentially valuable in eliciting early repressed memories (O'Flanagan and McGuinness, 1958), but in the experience of one of us (J.A.K.) the technique of its administration presents difficulties.

The second of these, methylphenidate (Ritalin), is the subject of the present communication.

Meier *et al.* (1954) demonstrated the properties of this drug in mice and dogs in doses of 0·5–5·0 mg./kg. of body weight. It increased psychomotor activity of shorter duration than that produced by amphetamine and the median

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

lethal dose was found to be relatively high, i.e. 30 mg./kg. of body weight when given intravenously. Barbiturates and other narcotics had a weak antagonistic action. The autonomic effects of Ritalin in animals were found to be an increase in respiratory rate and depth and a 10 per cent. rise in blood pressure and pulse rate. Neither peripheral vasoconstriction nor mydriasis occurred.

In human subjects Drassdo and Schmidt (1954) found that mental sluggishness induced by phenobarbitone was counteracted by Ritalin. Ferguson (1955) Ferguson *et al.* (1956), Ferguson and Funderburk (1956) and Ayd (1956) successfully counteracted with Ritalin the lethargy and Parkinsonism occurring in patients undergoing reserpine and chlorpromazine therapy. Cole and Glees (1956) and Plummer *et al.* (1957) compared the effects of Ritalin and amphetamine in monkeys. They found that Ritalin, unlike amphetamine, did not disturb sleep, but was less potent in increasing psychomotor activity. They postulate that the site of action of both drugs lies in the sympathetic centres of the posterior hypothalamus.

Therapeutic uses of oral Ritalin have been varied. Carter and Maley (1957) report on parenteral Ritalin as an alerting agent in cases of over-dosage with reserpine, and in debility after infections. Graham (1957) and Morpurgo (1957) applied Ritalin as a stimulant in aiding arousal after anaesthesia, and Ivey (1958) in coma following attempted suicide. Natanshon (1956) found the drug valuable in general practice, in treating convalescent patients and in the chronic sick and the aged.

In psychiatric practice oral Ritalin has been widely used in relieving depression (Stier, 1955; Davidoff, 1957; Jacobson, 1956). Jochheim (1955) reported on its use in psychoneurotic disorders and Geller (1955) in reactive depression and chronic fatigue, but the latter found the drug valueless in endogenous depressions. Pennington (1957) reports favourably on Ritalin in restoring verbalization and interest in chronic mental patients. Robin and Wiseberg (1958), in a controlled study with out-patients suffering from depression, found no significantly superior results with Ritalin than with inert tablets. Zimmerman and Burgemeister (1958) had some success with retarded children exhibiting behaviour disorders, particularly where the patients were listless and depressed.

All investigators stress the mildness of side-effects as compared with amphetamine, and the absence of "let-down", "rebound depression" or tendency to habituation with Ritalin. Increases in blood pressure and pulse rate are variably reported. Jochheim (1955), Ferguson *et al.* (1956) found no pressor effects in their patients, and Pennington (1957) comments that increases in blood pressure are rare in normotensive or hypertensive patients, but advises caution in the presence of gross arteriosclerosis. However Bartlet (1958) reports rises of up to 80 mm. systolic and 40 mm. diastolic pressure after intravenous Ritalin within 15 to 30 minutes of the injection.

The application of intravenous Ritalin as an aid to psychiatric diagnosis and therapy has been described by Hartert and Browne-Mayers (1958), who used doses from 20 to 40 mg. in 9 psychiatric patients, mainly alcoholics. There followed marked euphoria and talkativeness within five to ten minutes, enhanced introspection and critical self-evaluation, with consciousness undisturbed. They observed increases in systolic blood pressure, occasionally marked, less marked increases in diastolic readings, and considerable raising of the heart rate, all recorded during the interviews. They advocated careful evaluation of the cardiovascular system in every patient undergoing this procedure, but conclude that Ritalin promises to be a useful agent in psychotherapy.

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

Freed (1955) had observed that patients receiving oral Ritalin showed increased pressure of talk. He gave 10 to 15 mg. of Ritalin intravenously to 20 patients (Freed, 1958). In 14 verbalization was increased, markedly so in 5. One patient revealed repressed material not previously obtained with other drugs. The author remarks that compared with the previously used combination of methedrine and amytal the abreaction was less intense, the patient being less euphoric but releasing more aggression. The interview was more easily managed and side-effects much less disturbing, particularly, there was no subsequent insomnia.

Masciangelo (1957) reported facilitation of thought processes and pronounced abreaction in 50 neurotic patients given 20 mg. of intravenous Ritalin. Tedeschi and Vella (1957) believe that with this procedure it is possible to overcome emotional tension by reinforcing the functioning of the patient's consciousness. Bartlet (1958) recently tried with success to counteract the side-effects of reserpine therapy in schizophrenics by means of a single intravenous administration of Ritalin followed by oral therapy. He also reports marked temporary improvement in two depressed non-schizophrenic patients after 20 mg. of Ritalin intravenously.

Material and Procedure

Our series embraces 52 patients of whom 22 were treated in psychiatric out-patient clinics, 11 as in-patients in a mental hospital and the remaining 19 in a psychiatric unit attached to a general hospital.

Each case was treated by one of us separately. The selection of material was based on the usual indications for a drug-aided interview, viz.:

1. to increase rapport and put the patient at ease;
2. to overcome inhibitions and facilitate the flow of talk;
3. to uncover pre-conscious or unconscious material and increase the patient's receptiveness to its discussion and interpretation;
4. to aim at an abreaction proper, i.e. "the excitement obtained during the discharge of emotionally laden ideas and incidents" (Shorvon, Rook and Wilkinson, 1950).

Psychiatric diagnosis was not used as the criterion in the selection of patients for treatment. It was found, however, that the cases treated fell into the following groups:

Affective disorders (including tension states)	23
Sexual maladjustments	6
Hysteria	9
Psychosomatic disorders	4
Psychopathic personality	2
Obsessive compulsive neuroses	3
Schizophrenia	2
Mixed neuroses	3

There were 27 male and 25 female patients. The ages ranged from 13 to 58, with 6 patients in the second decade of life, 18 in the third, 11 in the fourth, 15 in the fifth and 2 in the sixth decades.

Twenty mg. of Ritalin was dissolved in water and injected intravenously. In only 1 case (39), where continuous clonic movements of the patient made intravenous injection difficult, the preparation was given intramuscularly with a satisfactory, though delayed, response. In most cases the

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

TABLE

Summary of Material and Results

Case No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
I.P. or O.P.	OP	OP	IP	OP	IP	IP	OP	IP	OP	IP	IP	IP	OP	OP	OP	OP	IP	OP	IP	IP	IP	IP
Age	37	20	34	14	17	35	32	34	24	23	30	42	41	33	40	24	43	36	24	18	22	46
Sex	M	M	M	M	F	F	M	M	F	M	F	F	M	M	F	M	M	F	F	M	F	F
Diagnosis	Tension State	Tension State	Tension State	Psychopathic Personality	Schizophrenia	Hysteria	Tension State	Depression	Frigidity	Hysteria	Reactive Depression	Depression	Tension State	Indecent Exposure	Psychosomatic Disorder	Sexual Maladjustment	Depression	Hysteria	Hysteria	Reactive Depression	Psychosomatic Disorder	Hysteria
No. of Ritalin interviews	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ritalin and other abreactive agents	–	–	–	–	+	+	–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–
Pressure of talk	–	+	+	+	+	–	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Emotional response	B	O	O	O	B	O	O	C	D	O	A	D	O	O	O	O	C	A	C	C	C	A
Diagnostic value	+	+	+	+	+	–	+	+	+	+	+	+	+	–	+	+	+	–	+	+	+	+
Therapeutic value	+	–	+	–	–	–	–	–	+	–	–	–	–	–	+	–	+	–	–	+	+	–
Both	+	–	+	–	–	–	–	–	+	–	–	–	–	–	+	–	+	–	–	+	+	–
No value	–	–	–	–	–	+	–	–	–	–	–	–	–	+	–	–	–	+	–	–	–	–

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

TABLE: *Summary of Material and Results—cont.*

| | | |

injection was given within 30 seconds, though in a few of the earlier cases within 2 minutes. The injection was administered with the patient lying supine on a bed or couch, usually in his own clothing but with shoes removed and with tight garments loosened; dentures were not removed. A few cases were conducted with the patient sitting in an easy chair and this position seemed satisfactory too. No special precautions, apart from routine physical examination, were taken. At first the patient was discouraged from having a meal for several hours prior to the treatment but experience showed this precaution to be superfluous. In the case of out-patients, arrangements were made for a responsible relative to accompany the patient home after treatment, but we are inclined to feel that this step, too, is unnecessary.

In 43 patients one interview with Ritalin was found sufficient. The 9 remaining patients received between them 2 and 21 treatments. Nine patients were, at various times, treated with Ritalin and alternatively or in combination with one or more of the following agents: pentothal, Presuren, nitrous oxide, ether.

RESULTS

In 49 cases Ritalin induced a significant increase in the flow of talk. Only in a few cases was it so great as to interfere with the patient's capacity to express himself clearly. When this did occur the patient would sometimes spontaneously remark "Do I make sense?" or "Does this sound coherent?"

Some patient showed almost compulsive circumstantiality, often irrespective of whether the subject under discussion was emotionally charged or not. At times it was found a hindrance to the smooth progress of the session, but in the majority of cases it threw useful light on the patient's attitudes and personality. One patient (38), who had Ritalin repeatedly, developed the ability to realize this herself and to abandon, or at least to correct, excessive or irrelevant detail in a way that she never did in unaided psychotherapy or psychotherapy with methedrine. It was found that the more unintelligent patients often lost the thread of the conversation and had to be brought back to the subject.

In 10 cases there was a marked emotional discharge within a few minutes of the injection being given. These patients exhibited psychomotor restlessness with uncontrollable sobbing ("A" in the Table). In 9 cases emotional discharge also followed within a few minutes of the injection but was less dramatic; it was characterized by transient tearfulness, slight increase in tension and was frequently followed by a sense of relaxation and well-being ("B" in Table). In 8 cases emotional manifestations of varying intensity, ranging from sadness and mild excitement to uncontrollable crying and marked psychomotor activity, developed at some time during the interview, and were related to the emergence or discussion of traumatic experiences and painful thoughts ("C" in Table). It is doubtful if these emotional manifestations can be attributed solely to the action of Ritalin, but we consider that Ritalin had facilitated them. In 4 cases a sudden attack of weeping, excitement and panic occurred at the end of the interview when the psychiatrist was about to leave the room, usually about one hour after the injection had been given ("D" in Table). In the remaining 21 cases no increase in the emotional tension was observed at any time during or at the end of the interview ("O" in Table). In patients who had repeated interviews, when emotional discharge occurred, it tended to occur in harmony with the expressed thought content, and not necessarily at the same

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

point in time during each interview, i.e. it was probably the result of interview development rather than the stage of Ritalin metabolism.

The procedure was considered to be of diagnostic value in 27 cases, of therapeutic value in 7 cases, and of both diagnostic and therapeutic value in 12 cases. In the remaining 6 cases the procedure was considered of no help. Each therapist assessed his own cases.

No major physical complications were observed during or following the administration of intravenous Ritalin in our series. All but one of our out-patients were able to leave the clinic from one to two hours after receiving the injection and most in-patients returned to their respective wards without need for special care. Only 4 in-patients required subsequent supervision and sedation. No insomnia was reported even when treatment was given in the later afternoon. A few patients complained of loss of appetite for several hours after the procedure. One patient complained of headache and 2 of slight palpitation during the interview. Ten patients remained emotionally labile for several hours after injection; in 4 patients this was apparent to the casual observer, in the others it was noticed by the therapist. In no case was a spontaneous complaint made by the patient.

Case Reports

Three fairly typical examples of Ritalin interviews are given below:

Case No. 20: Male: Age 18: Single

Periodic attacks of unconsciousness of 2 years' duration.

History

He was labelled epileptic and had received anti-convulsant therapy. The patient came from a very poor family and was subjected to severe emotional trauma at the age of 9, when his younger brother, to whom he was most attached, was killed in his presence in a road accident. He subsequently felt responsible for this accident and has since then suffered from recurring anxiety symptoms and nightmares. His father was a chronic invalid and the patient was the only breadwinner in the family, there being a good deal of financial stress in the home. The patient started work as a shop assistant, but after two years left in a fit of temper and was very unsettled in the subsequent job. While there he stole some money and was later dismissed. His "blackouts" commenced some time after the trouble at his first place of employment. He was rejected from Army service because of his attacks which caused him much disappointment as he wished to get away from home. Thereafter the frequency of the attacks increased. He was referred to a neurologist, who was doubtful whether the attacks were truly epileptic and admitted him for investigation. Neurological examination, a radiograph of the skull and the electro-encephalogram were normal.

Ritalin Interview

He talked under great pressure and with compulsive attention to circumstantial detail, often losing the thread of the conversation. There was marked tremor throughout the interview and obvious show of emotion while recounting the brother's death at great length.

Subsequent Progress

There were no ill-effects on the day of the injection. The patient walked unaided back to another ward and slept well the same night. Several of his fainting attacks were witnessed by the staff who suspected that they were not epileptiform. This observation, together with the result of the Ritalin interview, established the diagnosis of functional fainting attacks, and all anti-convulsant therapy was stopped. After some further talks he was discharged home but subsequently applied to the Matron for training as a S.E.A.N. and is at present working satisfactorily in the chronic wards of this hospital, having had no further attacks.

Comment

A great deal more information about this patient's personality, attitudes and emotions was obtained during the Ritalin interview than during the previous talk with him. It was of great assistance in coming to a positive diagnosis.

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

CASE NO. 38: FEMALE: AGE 44: MARRIED

Severe obsessional neurosis with hand-washing and dirt-phobia.

History

Strictly brought up by an unstable but house-proud mother and a short-tempered father. She grew up in the days of severe unemployment; when she became employable had to go into lodgings in order to qualify for unemployment assistance. Always very tidy and very clean about her person. After marriage her phobia of dirt became increasingly severe so that her time became completely occupied with superfluous activity and her house became a filthy chaos. This, among other factors, led to the break-up of her marriage.

Psychotherapy was tried with little improvement; her emotional problems were intellectualized and she presented considerable resistance and inhibition.

Administration of *intravenous methedrine* resulted in a torrent of words impossible to direct and maintained for over 24 hours. In the early stages she was extremely aggressive and paranoid, so much so that doubts were raised whether she was not, in fact, a paranoid schizophrenic—though the subsequent course of her disorder has not confirmed this suspicion.

With *pentothal* there was little response and no significant progress.

Ritalin Intravenously

Marked relaxation and release of tension, and good rapport was engendered, with recovery of forgotten incidents, real and fantasied, accompanied by marked abreaction. The capacity to criticize herself was improved resulting in reduction of symptoms and ability to overcome them when they reappeared. Anamnesis was formerly excessively detailed and almost ritualistic. With Ritalin she became able to cut short her own defensive digressions (recognizing their true nature!) and spontaneously progressed with the main deeper theme.

Subsequent Progress

The patient, still under treatment, feels better and shows improvement in her relationship with others. She is able to make a fairly realistic appraisal of her situation and is beginning to make positive plans for the future.

Comment

This was a difficult psychiatric problem, almost given up as incurable after attempts at psychotherapy and abreaction with methedrine and pentothal. With the aid of Ritalin psychotherapy made considerable progress, resulting in alleviation of the patient's symptoms.

CASE NO. 48: OUT-PATIENT: FEMALE: MARRIED AGE 23

History

Referred by her general practitioner with depression and a history of recent suicidal attempt. She was intelligent and before her illness keen and active, but anxious and very insecure. When 18 she married a man nearly twice her age in order to escape her home environment. There is one child. She soon separated from her husband and now again lives with her parents. She fell in love with a Turkish student but realizes that the prospects of marriage are remote. Being very inhibited the patient found it very difficult to talk about her numerous difficulties and conflicts, especially concerning her sexual life. For this reason a drug-aided interview was recommended.

Ritalin Interview

Within a few minutes of the injection the patient became talkative and relaxed, smiled and said that she was "feeling fine". After a few general subjects she started talking spontaneously about her feelings of hostility and guilt at home and the hopelessness of her love. There was copious weeping, with a flood of material of which she had been aware but normally avoided thinking about it. Another outburst of weeping took place some 20 minutes later.

Comment

This case illustrates the increased flow of talk and emergence of relevant material. It produced considerable emotional discharge of the type marked "C" on the Table. The procedure was of value both from a diagnostic and therapeutic point of view.

DISCUSSION

In general, the patients expressed pleasure in the sensation of relaxation and in their ability to verbalize and to express their feelings after the injection of Ritalin. They felt their thoughts came more readily and they saw past events and relationships more clearly. Ideas emerged of which the patient had only been dimly aware. There was a tendency to subsequent resubmergence of factors which were painful and unpleasant; this is, of course, a commonplace in

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

psychotherapy, with or without drugs, but we feel there is less tendency for it to occur with Ritalin than with other agents. Many cases reported turning over in their minds material discussed at the interview, some reporting it spontaneously, some on questioning. None was disturbed by this phenomenon and, indeed, many were pleased, feeling that it was profitable. Several contrasted it with the feelings of disturbance or of "barrenness" between interviews, prior to the use of this drug. Our experience confirms Masciangelo's (1957) that the initial Ritalin interview facilitates later non-drug-aided psychotherapy.

We saw no evidence of true dissociative phenomena with Ritalin, the patient being in a state of unimpaired consciousness throughout. No patients appeared dazed or felt any alteration in their contact with reality; none asked questions such as "Where am I?" or "What is happening to me?" In this we found a distinct difference from methedrine or pentothal interviews, during which dissociative and twilight states occur frequently, the patients afterwards either having amnesia for the episode or realizing that something very unusual had happened to them. With Ritalin, however, there was one case (32) of gross behaviour disorder during and following the interview necessitating heavy sedation. This patient was clinically considered an immature psychopath and was under observation following a hysterical fugue. While under the influence of the drug his behaviour became offensive, grandiose, hyperactive, and he lost all judgment and sense of propriety.

In considering the usefulness of Ritalin in different diagnostic categories we feel that the indications are roughly the same as for drug aided interviews in general as set out in the section on procedure. A word of caution is necessary in cases of overt depression, where occasionally Ritalin interviews served to heighten the patient's awareness of his morbid ideas and conflicts, and in consequence the depression deepened. But the majority of our depressed patients felt greatly relieved after interview. In 3 cases latent depression was uncovered and later successfully treated with electro-convulsant therapy.

Two obsessional patients (33 and 38) abreacted instantaneously. The stream of talk became more profuse in one than in the other, but both showed a degree of elation which they related to the relief of tension. There was no excessive, uncontrollable increase in the flow of talk amounting to disorganization of speech, such as we have observed in obsessional patients with methedrine, and in fact, in one of the two cases under discussion.

Two latent psychotics (5 and 47) were investigated, resulting in the admission of previously denied hallucinations or delusions, and enabling the diagnosis to be made much more accurately and more rapidly than would otherwise have been possible.

Three patients who were strongly suspected of withholding relevant information still exerted strong resistance during the Ritalin interviews. It was felt that they were holding back something of importance which they had, from the outset, no intention of divulging. Two of these cases (6 and 19) were also given methedrine and pentothal in separate sessions, but with no more success. Ritalin, therefore, does not appear to break down conscious barriers any more than do the other drugs.

Some of the more uninhibited garrulous patients became extremely verbose without concomitant emotional release. Ritalin seems to have less value in such cases though a few useful points were elicited.

Emotional discharge does not appear to be a prerequisite for success; for example, in Case 21, where the interview was of definite therapeutic value, no frank emotionalism occurred. The patient was most relieved and grateful

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

to have been allowed to talk at such length and improved rapidly after the interview. Excitatory abreaction as such is, in our view, of value in a very selected group of cases, for example, battle casualties and neurotic reactions following profound psychic trauma. Ritalin is not as powerful in this respect as ether or methedrine. Emotional release of varying intensity did occur in a total of 31 out of our 52 cases. We have no comparable data for methedrine interviews, but our clinical impression is that it occurred more frequently and with greater intensity with the latter drug. There appears to be a group of people who, perhaps because of their constitutional endowment or their low threshold for emotional display, readily respond with tears to the interview situation, especially one involving injections. Others, with a high threshold for emotional release, undoubtedly undergo a profound experience during the Ritalin interview, in which facilitation of thought and verbalization occur with subjective relief and therapeutic benefit, without necessarily showing overt emotion. Such patients frequently remark subsequently that they have never been able to talk so freely about intimate personal matters, and express their sense of true gratitude for being allowed to do so.

We find that Ritalin interviews tend to terminate spontaneously under one hour, a great convenience in out-patient work, whereas methedrine interviews are notoriously difficult to break off.

Unpleasant side-effects were few, and although we have recorded in the section on results all complaints elicited by questioning, spontaneous complaints were noticeably rare. There was never as much distress as after methedrine. One patient (30) suffering from paroxysmal tachycardia had an attack while waiting for the interview and complained of palpitations when she entered the room. This attack subsided and the injection was given; the pulse rate rose rapidly from 80 to the range 140 to 160 beats per minute and remained at this level throughout the interview. There was no emotional discharge at this session. The patient had no subjective palpitations while under Ritalin and denied this symptom when specifically questioned about it. In many cases, similarly, though the pulse rate undoubtedly increased, this only rarely caused subjective discomfort; perhaps it is overshadowed by the feeling of relaxation and pre-occupation with the interview itself.

Noteworthy, too, we feel, is the absence of any sense of "let-down" or rebound depression in all our cases.

Referring to methedrine, Straker (1953) and Brussel, Wilson and Shankel (1954) expressed the view that no alteration of awareness or impairment of judgment occurs. However, we have been impressed by the number of our own patients who, under methedrine, showed a tendency to dissociation. Shorvon (1953) similarly mentions several cases of prolonged severe hysterical reaction. Masciangelo (1958) also encountered lack of inhibition after amphetamines. In tension states the administration of methedrine is potentially harmful as acute agitation may be precipitated: we have had no such experience with Ritalin.

In comparing the administration of Ritalin with that of the intravenous barbiturates the following points can be made. With Ritalin there is no need to maintain the needle in the patient's vein. Accidental leakage causes no tissue irritation, and where there are technical difficulties Ritalin can be given intramuscularly. There is no danger of inadvertently causing undesirable drowsiness. Disinhibition and emotional release occurs more rarely with intravenous barbiturate than with Ritalin, with which, even if there is no such response, there is at least increased verbal output. The altered state of consciousness

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

which at times occurs with intravenous barbiturates may be regarded as an advantage or otherwise, depending on the level at which psychotherapy is practised.

Our experience with inhalations of ether, trilene, nitrous oxide and carbon dioxide is limited and thus we cannot make a valid comparison of these with Ritalin. But working independently we felt that patients disliked inhalations and became frightened of them, often refusing further sessions. Ritalin appears much more productive and simpler to use. One of us (R.A.B.) was told by Case 42, who had experience of nitrous oxide with ether, and of Ritalin in separate sessions, that with ether she recalled traumatic experiences more vividly but was unable to talk about them, whereas with Ritalin she did not experience them so acutely but was much more able to discuss and to integrate them. In the Ritalin interview she made use both of fresh material and recollection of that produced in the earlier ether session.

We found no evidence of addiction to Ritalin or over-dependence upon it, even in cases who had quite a large number of repeated Ritalin administrations.

Conclusion

We find that Ritalin is a valuable, pleasant and safe aid to psychotherapy, suitable for use with in-patients and out-patients. The reactions are less intense than those of methedrine, giving both operator and patient a sense of smoothness of action, and it has a number of notable advantages over other abreactive agents. Side-effects are minimal, but tachycardia and rise of blood pressure does occur in some cases, and caution should be exercised in patients suffering from hypertension and heart disease.

In our opening remarks we listed four points as the usual indications for a drug-aided interview. We are satisfied that Ritalin increases rapport, puts the patient at his ease, overcomes inhibitions and facilitates the flow of talk. We believe that it assists in the recovery of pre-conscious material, but we have no evidence that it uncovers unconscious memories; it increases the patient's receptiveness to discussion and interpretation, enabling him to integrate and assimilate facts about himself, the full acceptance of which he previously resisted. The patient is thus helped to gain control over the emotional forces within himself, leading to a greater sense of security and self-regard. Finally, while it appears that emotional discharge is not always essential for improvement, the drug is quite capable of inducing an abreaction proper, as defined by Shorvon, Rook and Wilkinson (1950).

Summary

1. A series of 52 patients were treated with parenteral methylphenidate.
2. The literature of abreactive treatment is reviewed.
3. The use of methylphenidate is discussed and contrasted with other abreactive agents.
4. It is concluded that methylphenidate is a useful, safe and pleasant aid to psychotherapy, suitable for use with in-patients and out-patients.

Acknowledgments

Our thanks are due to Dr. N. J. de Ville Mather, Consultant Psychiatrist, Crumpsall Hospital, for his permission to publish those cases under his care; to Drs. Barnett and Segal for their valuable assistance; and to CIBA Laboratories Limited for their co-operation and advice.

References

Ayd, F. J., Jr., *Curr. med. Dig.*, 1956, **23**, 59.
Bartlet, J. E. A., *Brit. med. J.*, 1959, *i*, 481.
Brown, W., *Psychological Methods of Healing. An Introduction to Psychotherapy*, 1938. London: University of London Press. pp. 18–19.

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press

BRUSSEL, J. A., WILSON, D. C., and SHANKEL, L. W., *Psychiat. Quart.*, 1954, **28,** 381.
CAMPBELL, A. M. G., *Guy's Hosp. Rep.*, 1938, **88,** 185.
CARTER, C. H., and MALEY, M. C., *Dis. nerv. Syst.*, 1957, **18,** 146.
CLARK, D. H., *J. Ment. Sci.*, 1954, **100,** 722.
COLE, J., and GLEES, P., *Lancet*, 1956, *i*, 338.
Iidem, *J. Ment. Sci.*, 1957, **103,** 406.
CULPIN, M., *Psychoneuroses of War and Peace*, 1920. London: Cambridge University Press. p. 16.
DAVIDOFF, E., BEST, J. L., and MCPHEETERS, H. L., *N.Y. St. J. Med.*, 1957, **57,** 1753.
DEBENHAM, G., HILL, D., SARGANT, W., and SLATER, E., *Lancet*, 1941, *i*, 107.
DRASSDO, A., and SCHMIDT, M., *Med. Mschr.*, 1954, **8,** 306. 393.
FERGUSON, J. T., *Ann. N.Y. Acad. Sci.*, 1955, **61,** 101.
Idem and FUNDERBURK, W. H., *J. Amer. med. Ass.*, 1956, **160,** 259.
Idem, LINN, F. V. Z., SHEETS, J. A., and NICKELS, M. M., *ibid.*, 1956, **162,** 1303.
FREED, H., *Amer. Practit.*, 1955, **6,** 706.
Idem, *Amer. J. Psychiat.*, 1958, **114,** 944.
FREEMAN, T., *Brit. J. med. Psychol.*, 1952, **25,** 148.
FROLOV, Y. P., *Pavlov and His School*, 1938. London: Kegan Paul.
GARMANY, G., *Proc. R. Soc. Med.*, 1953, **46,** 155.
GELLER, W., *Medizinische*, 1955, **16,** 606.
GRAHAM, R., *Lancet*, 1957, *ii*, 599.
GRINKER, R. R., and SPIEGEL, J. P., *War Neuroses in North Africa*, 1943. New York: Josiah Macy, Jr., Foundation.
HARTERT, D., and BROWNE-MAYERS, A. N., *J. Amer. med. Ass.*, 1958, **166,** 1982.
HAWKINS, J. R., and TIBBITTS, R. W., *J. Ment. Sci.*, 1956, **102,** 43.
HORSLEY, J. S., *Lancet*, 1936, *i*, 55.
IVEY, E. P., *J. Amer. med. Ass.*, 1958, **167,** 2071.
JACKMAN, A. I., and SCHORR, C. A., *J. clin. exp. Psychopath.* 1952, **13,** 17.
JACOBSON, A., *Med. Ann. D.C.*, 1956, **25,** 491.
JOCHHEIM K. *Med. Klinik*. 1955. **50,** 864.
LEVINE, J., RINKEL, M., and GREENBLATT, M., *Amer. J. Psychiat.*, 1948, **105,** 429.
LINDEMANN, E., *Proc. Soc. exp. Biol., N.J.*, 1931, **28,** 864.
LING, T. M., and DAVIS, L. S., *Amer. J. Psychiat.*, 1952, **109,** 38.
MASCIANGELO, P. M., *Riv. sper. Freniat.*, 1957, **81,** 802.
MEDUNA, L. J., *Carbon Dioxide Therapy*, 1950. Springfield, Ill.: Charles C. Thomas.
MEIER, R., GROSS, F., TRIPOD, J., *Klin. Wschr.*, 1954, **32,** 445.
MORIARTY, J. D., *J. clin. exp. Psychopath.*, 1952, **13,** 181.
MORPURGO, C. V., *Min. anest. (Torino)*, 1957, **22,** 110.
NATENSHON, A. L., *Dis. nerv. Syst.*, 1956, **17,** 392.
O'FLANAGAN, P. M., and MCGUINNESS, O. L., *Lancet*, 1958, *i*, 196.
PALMER, H. A., *J. roy. Army med. Cps.*, 1945a, **84,** 86.
Idem, *Lancet*, 1945b, *ii*, 492.
PAVLOV, I. P., *Lectures on Conditioned Reflexes*, 1941. Vol. II. London: Lawrence and Wishart.
PENNINGTON, V. M., *Dis. nerv. Syst.*, 1957, **18,** 477.
PLUMMER, A. J., MAXWELL, R. A., and EARL, A. E., *Schweiz. med. Wschr.*, 1957, **87,** Suppl. to No. 14, 370.
ROBIN, A. A., and WISEBERG, S., *J. Neurol. Psychiat.*, 1958, **21,** 55.
SARGANT, W., and SLATER, E., *Lancet*, 1940, *ii*, 1.
Iidem, *Proc. R. Soc. Med.*, 1941, **34,** 757.
Iidem, *An Introduction to Physical Methods of Treatment of Psychiatry*, 1954. 3rd ed. E. & S. Livingstone. pp. 200–202.
SHORVON, H. J., ROOK, A. J., and WILKINSON, D. S., *Brit. med. J.*, 1950, *ii*, 1300.
Idem and SARGANT, W., *J. Ment. Sci.*, 1947, **93,** 709.
Idem, *Proc. R. Soc. Med.*, 1953, **46,** 155.
SIMON, J. L., and TAUBE, H., *J. nerv. ment. Dis.*, 1946, **104,** 593.
STIER, C., *Ther. d. Gegenw.*, 1955, **94,** 92.
STOCKERT, F. G. VON, *Med. Klinik.*, 1935, **31,** 198.
STRAKER, M., *Amer. J. Psychiat.*, 1953, **109,** 853.
TEDESCHI, G., and VELLA, G., *Gazz. int. med.-chir.*, 1957, **62,** 1911.
WAGNER, C. P., *J. Amer. med. Ass.*, 1933, **101,** 1787.
YANEKIAN, A., SALTPETER, M. M., TOBACH, E., and WELCH, L., *J. nerv. ment. Dis.*, 1954, **119** 159.
ZIMMERMAN, F. T., and BURGEMEISTER, B. B., *Amer. J. Psychiat.*, 1958, **115,** 323.

https://doi.org/10.1192/bjp.105.441.1032 Published online by Cambridge University Press