In the neurosis group the figures were 21 per cent. from the "bad" type of home; 47.3 per cent. from the "unsatisfactory" type; and 31.5 per cent. from the "good" type. Neustatter (1938) showed that poor social conditions did not necessarily produce neurosis in children unless there were symptoms of it in the parents. The above figures seem to confirm his findings and to suggest that delinquency and crime are more likely to be the end-results in the "bad" type of home. It is interesting to note that the highest percentage of neurosis cases came from the more comfortable homes where psychological conditions were bad.

The results of treatment, the length of time taken, and the number of attendances necessary do not seem to bear any relation to the type of home. Just as good and enduring results seem to have come about in cases from "bad" homes as in those from the other two types. This suggests that the direct method of play-therapy can be successful in helping the child to overcome his difficulties without the necessary aid of environmental change.

Immediate Results of Treatment

Many of those placed under "much improved" on discharge might have been labelled "well"—that is, free from the symptoms for which they were referred, with no development of other symptoms indicating that adjustment had not been reached. But, as we felt that consolidation was still necessary after they left, they were designated in the case sheets "much improved."

Present Condition of Patients

It is satisfactory to report that many of the "much improved" cases can now be labelled "well," and as far as can be judged are completely normal. Under the heading "unadjusted" are four anti-social cases, one of whom is in Borstal and two are in Home Office schools. These cases were prematurely removed from the clinic by their parents, who became uncooperative after the children had had a certain amount of treatment. They all came from "bad" homes. One case of neurosis from a "bad" home is now in Borstal. The present condition of the 154 patients is as follows:

Well	78
Improved and much improved	36
Unadjusted	12
Dead or not traced	18
Transferred to other institutions	10
	<hr/> 154

This is not a large number, but the method of treatment was then new and experimental, and fewer cases were taken than now. At the Institute of Child Psychology attention is more intensively concentrated on the treatment of the patient and less on the alteration of environmental conditions, and consequently the period of treatment is longer and the attendances more frequent than in other clinics treating similar cases by different methods. The social worker does not visit the home more than once, and the aim of the treatment is to help the child to overcome his own problems rather than to remove difficulties from his path. On the other hand, the constant attendance of the mothers at the centre and the influences exerted upon them both in the social workers' department and in the parents' department doubtless have an effect through the mother upon the home environment.

The clinic is open twice weekly for sessions of two hours each, and the majority of the children attend twice a week until improvement is well established, when the intervals are extended until attendance ceases altogether, except for reporting purposes. Every child receives a medical examination on entrance and at periodic intervals. Where necessary medical or surgical treatment is arranged for, in consultation with the family physician if there is one, in order to help the child to become as physically fit as possible. Simple medical treatment is given at the institute itself if the parents are too poor to pay for private medical attendance. In some cases convalescent holidays are arranged for varying periods. In certain medical disorders, however, where a psychological origin is suspected, no medical treatment at all is advised or given. As an adjunct to play-therapy and also in the interests of physical fitness, the physical re-education and rhythm department is of great help in treatment. The formation of a parents' department, in charge of a medical psychotherapist, though primarily for the purpose of helping the parents with their own difficulties, is doubtless responsible for the fact that once the child's treatment is established a large percentage of the mothers remain co-operative throughout, however long it takes.

Acknowledgments are due to Dr. Elspeth Macleod, tutor, Institute of Child Psychology, for the help she has given with some of the cases.

REFERENCE

Neustatter, W. Lindesay (1938). *Lancet*, 1, 1436.

TREATMENT OF GONORRHOEA WITH ULERON

BY

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The following is a record, with observations, of forty-three cases of gonorrhoea, of which twenty-one had received routine treatment for at least six weeks prior to having uleron.

Uleron is one of the newer compounds evolved in the endeavour to obtain a drug, possessing the lowest possible toxicity, which would influence the largest number of bacterial diseases apart from streptococcal infections. It has the formula:

It is one of three closely allied compounds, which only differ by substitutions in the final sulphonamide group, and which have been found to exert a more favourable influence in gonococcal infections than any of the other thousand compounds investigated.

Uleron is manufactured by Messrs. Bayer, who kindly put a supply at my disposal. I was told quite frankly that they could make no definite claims for uleron, which was still under trial; that I might find it a complete failure; and that neither its dosage nor its non-toxicity was established. It had been tried out in some clinics in Germany, and a translation of the report by Grütz, "New Foundations for the Treatment of Gonorrhoea," an advance proof of Fischer's "New Methods of Treatment of Gonorrhoea," and Felke's "On the Chemotherapy of Gonorrhoea" constituted the available literature at that time. These three workers were most enthusiastic about the therapeutic value of the new compounds. They claimed their advent as the greatest advance ever made

in the treatment of gonorrhoea, and were confident that the long-awaited solution to the problem of a speedy cure for that disease had at length been found.

Earlier Experiences with Uleron

Grütz had worked mostly with one of the other compounds of the uleron group, which he found superior to uleron, though in his tables only two cases seem to have been treated by uleron alone. In his series of thirty-six cases he obtained twenty-four cures. The total dosage varied between 6 grammes and 82 grammes. Toxic effects were noted in eleven cases.

Fischer treated forty cases, one half with uleron, the other half with the allied compound used by Grütz. He observed no distinction between their relative efficacy. It was his impression that with the allied compound it was the clinical symptoms, not the microscopical findings, that were more quickly affected. He made careful observations of the blood pictures of his cases and noted an almost constant diminution of the polymorphs, with a relative increase of the lymphocytes towards the end of a course. Apart from this neither preparation gave rise to any evidence of toxicity. He further stated that the urinary findings were in no way abnormal, and that estimations of bilirubin, xanthoprotein, blood sugar, and blood calcium invariably showed figures within physiological limits. He gave 3 grammes daily for three days, and repeated the course in eight to ten days if necessary. Later he obtained equally good results with 2 grammes daily for five days. Toxic effects were completely absent. He found that non-recent cases reacted better than acute ones, and for the latter advocated either waiting ten to fourteen days before starting the treatment or stimulating the body defences by vaccines, injections of blood, olobinthin, or colloidal sulphur, irradiations, etc. In his finally published paper he had obtained cures in fifty-five cases out of fifty-eight with only one relapse and one case of toxic rash and pyrexia.

Felke reported on fifty cases. He too stressed what he terms "the preparedness of the body for cure," and recommended that acute cases should have a short course of uleron to clear up the gross symptoms; then an interval for Janet irrigations twice daily, during which time the body defences were mobilized; and only then a second course of uleron, 2 to 2.5 grammes daily for five or six days. To one case he had given 61 grammes in three weeks without causing side-effects, but considered such dosage excessive and to be avoided. He hoped for still newer compounds requiring a smaller degree of co-operation on the part of the body. Commenting on the mode of action of uleron, he noted that even while taking large doses the blood of the patient had no inhibitory action on the growth of gonococcal cultures.

Treatment of the Present Series

It was suggested to me that the results of treatment by smaller doses would be of interest. A dosage of three tablets a day—1.5 grammes—was adopted and adhered to in all my cases. In spite of the results already obtained elsewhere I began treatment cautiously, my earlier patients receiving a three-day course, which was only repeated after an indefinite interval of observation for relapse, delayed cure, or toxic manifestations. As it became evident that such treatment was insufficient the interval between the courses was shortened. Next the courses were lengthened, and also the intervals, the latter being again shortened as the almost complete absence of toxic symptoms became evident. In addition to receiving uleron

for the periods shown in the case records, all patients were irrigated twice daily with potassium permanganate 1 in 10,000, and had prostatic massage once a week if the prostatic smears were pathological.

The standard of cure was not exacting. All treatment was stopped. Daily examination was made for urethral discharge immediately on rising, as well as of the first morning urine by the two-glass test. Other criteria were: the anterior urethra normal on urethroscopy; the passage of a large sound; a prostatic smear showing absence of organisms and less than four pus cells per field. The minimum observation period was eight days; this was extended up to twenty-one days in many cases.

Complications.—None occurred in any patient after commencement of treatment with uleron.

Toxic Effects.—One possible case, No. 37: gastro-enteritis, pyrexia, and giant urticarial rash on the eleventh day of treatment. The temperature (101.4°) became normal in forty-eight hours, and the rash had gone within seventy-two. The patient blamed some tinned salmon for this upset, volunteering the information that on the previous evening he had eaten some for the first time for nine years. Nine years ago its ingestion had been followed by severe gastro-enteritis but no rash.

Results of Treatment

21 cases had a three-day course	..	5 were cured
11 " " second course	..	2 " " (6 were cured after 7 to 13 days' uleron)
12 " " four-day course	..	1 was cured
8 " " second course	..	4 were cured
3 " " 13 to 17 days' treatment	..	No cures
4 " " five-day course	..	1 was cured
2 " " second course	..	No cures (1 was cured after 11 days' uleron)
2 " " six-day course	..	No cures
4 " " seven-day course	..	2 were cured
Cured: 22 cases (2 acute; 20 non-acute)		
Failures: 21 cases of which 15 were inadequately treated. 6 were adequately (?) treated		

My results seem to compare unfavourably with those of the German clinics to which I referred earlier. The obvious cause for this is under-treatment due to three things: the number of cases (seven) transferred from my charge before treatment was completed (Nos. 4, 6, 19, 21, 22, 35, 36); overcaution in abandoning treatment (five cases, Nos. 5, 9, 12, 16, 26); and lack of uleron to complete treatment in three cases (Nos. 38, 39, 40). These fifteen cases are not true failures. They are short-treatment failures, and should only be assessed as such. They are included lest the false impression might be given that a high percentage of cures can be obtained after a few days' treatment with uleron. I am recording several such cures, but I regard them rather as the exception than as the rule—agreeable surprises when they occur, but not to be expected in any individual case. It is rather unfortunate that nine out of these fifteen cases were in the acute stage—that is, in the first three weeks of the infection. Of the six true failures it is significant that five were acute cases and that only two of the successes were acute.

Clinical Observations

The immediate effects of uleron are remarkable. In nearly every case the discharge dwindles rapidly and the urine clarifies within a couple of days. The discharge becomes a morning dampness, and gonococci disappear almost abruptly from the urethral smears. The usual transitional stage seems to be entirely absent, for no Gram-negative extracellular diplococci were reported in any of the slides. In only three adequately treated cases did gonococci persist in the urethral discharge. Subjective symptoms such as dysuria and painful erections

ceased. I had not the opportunity of noting the effect of uleron on acute complications as most of my complicated cases had got over their acute symptoms when they reached me. The extraordinarily rapid clinical improvement and deceptively clear morning urines give rise to an expectation of speedy cure which is not always fulfilled. The morning dampness invariably consists of pus cells and coccal organisms, Gram-negative cocci being the most common finding. To cause complete cessation of this pathological dampness was the difficulty, for it sometimes proved resistant to second and third courses of uleron, to periods of irrigations alone, and to complete rest from treatment. From the patient's point of view the gonorrhoea was cured, and it would be easy to overlook this slight persistent urethritis if the patient was not under strict observation. Cessation of local treatment at this stage invariably led to a gradual increase in the amount of the discharge, though gonococci were seldom demonstrated after they had been absent for about ten days.

It was tantalizing to arrive almost at a cure so speedily, only to be checked by the morning dampness. It was felt that some small alteration in the dosage or prolongation of the courses would overcome this final obstacle to cure in many cases, and it was this incentive which led me to pass on too quickly to seven-day courses when my supply of uleron was running low. In spite of some wonderful cures with three-day and four-day courses I felt that even two four-day courses of 1.5 grammes per day would not give the best results of which I believe this drug to be capable. Thirteen of my patients had more than eight (nine to seventeen) days' treatment, seven of them being cured, four within the ten-day limit. Nineteen out of my twenty-two cures were obtained with a maximum of ten days' treatment, which I would certainly use as a standard basis for further clinical trials with uleron. It is fully realized that one is not entitled to draw conclusions from experiences with a couple of dozen cases, and that the adoption of a ten-day standard is arbitrary and unproven. The method of action of uleron is not fully understood. Fischer says, "We cannot speak of its disinfectant action, but rather of one affecting the reticulo-endothelial system." It is suggested that intermittent is preferable to continuous treatment, in which case the dosage of 1.5 grammes per day might be increased with advantage in the absence of toxic symptoms. With the smaller dose which I employed I feel that at least two-day, five-day, or even seven-day courses would give excellent results, and this matter deserves full clinical investigation.

Impressions from the Treatment

The number of cases I have treated is too small to permit me to draw conclusions. I can only record my impressions. They are:

That uleron is definitely a most valuable adjuvant in the treatment of gonorrhoea.

That in the dosage I employed uleron appears to be non-toxic.

That with moderate doses, used in conjunction with local treatment, a cure can be obtained in a large number of cases more quickly than hitherto possible.

That the non-acute cases seem to respond more readily than the acute cases.

That when the optimum dosage is established a high percentage of cures should be possible within three weeks.

That a small percentage of patients may prove completely resistant to uleron treatment.

1	2	3	4	5	6	7	8	9	10
Case No.	Age	Past Infections of Gonorrhoea	Gc. Present in Urethral Smear	Complications	Uleron 1 tab. i.i.d.	Urethral Smears	Prostatic Smears, Leucocyte Counts, etc.	Result	Total Days on Uleron
1	30	1931	147	Nil	155-157	158 pec 163 nil		Cured	3
2	37	1935	54	Ep. L. 20	75-77	76 nil		"	3
3	32	{ 1924 1931 1935	1	Nil	2-4	5 nil 20 nil	16 fps	"	3
4	33	{ 1934 1935 1937	121	—	131-133	134 ec 138 pec		Failure P.T.	3
5	33	Nil	5	—	5-7	10 nil 21 pec		Failure T.A.	3
6	21	—	2	—	2-4	5 pec 11 Gc		Failure P.T.	3
7	24	—	23	—	28-30	30 fpe 32 nil	25 6,000	Cured	3
8	28	—	36	Ac. P. 20	46-48	49 fpe 51 nil	44 8,600	"	3
9	22	—	74	Nil	75-77 83-85	81 Gc 88 Gc	82 8,400	Failure T.A.	6
10	32	—	51	Ep. R. 27	52-54 62-64	53 nil		Cured	6
11	22	—	14	Ep. L. 14	22-24 30-32	25 nil 29 Gc 33 nil	22 6,000 29 GFT + 43 GFT —	"	6
12	21	—	—	Nil	44-46 50-52	47 pec 52 nil 59 pec		Failure T.A.	6
13	24	—	54	—	55-57 73-75 82-84	58 nil 71 pec 77 pe 85 e 88 nil	65 fp	Cured	9
14	26	—	83	Ac. P. 24	83-85 93-95 98-101	86 nil 93 pec 97 pc 102 nil	99 ed 107 d	"	10
15	31	—	70	Ac. P. 31	79-81 88-91 94-97	87 Gc 91 Gc 93 fpe 101 nil	98 e	"	10
16	28	1935	20	Nil	21-23 28-30 37-39	24 pc 28-36 nil 36 pc 40 pec		Failure T.A.	9
17	25	1934 1937	115	—	115-117 125-127 132-136	118 pec 129 pec 137 nil	124 11,400	Cured	11
18	19	Nil	1	—	2-4 9-12 18-20	9 Gc 13 pec 22 Gc	26 Gc 30 10,200	Failure T.A.	10
19	26	1931	1	Nil	2-4 9-11	5 fp 6-7 nil 12 pec 19 Gc		Failure P.T.	6
20	28	{ 1934 1935 1936	36	39-41	39-41 61-64	43 pc 50 Gc 64 nil	43 fp	Cured	7
21	18	Nil	6	—	9-12	12 pc 18 Gc		Failure P.T.	4
22	23	—	1	—	1-4	5 pec 9 pec		"	4
23	20	1937	11	—	60-62 68-71 85-90	62 pec 73 nil 82 pec 91 fp 93 nil	79 sd	Cured	13
24	39	—	47	Ep. L. 28	52-55	54 nil		"	4
25	22	1936	6	Nil	122-125 133-135 142-144	126 pec 141 pec 143 nil 149 fpe 151 nil	135 ed	"	10
26	29	—	7	—	12-15 20-23	19 pc 26 pc		Failure T.A.	8

A POST-MORTEM RECORD OF PULMONARY TUBERCULOSIS IN DIABETICS

BY

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1	2	3	4	5	6	7	8	9	10
Case No.	Age	Previous Infections of Gonorrhoea	Gc. Present in Urethral Smear	Complications	Uleron T.ub. L.i.d.	Urethral Smears	Prostatic Smears, Leucocyte Counts, etc.	Result	Total Days on Uleron
27	17	—	101	—	102-105 113-115	105-107 nil 108 pec 118 nil		Cured	7
28	19	—	37	—	41-44 48-51	45 pc 50 nil		"	8
29	43	1922 1927 1935	56	Ac. P. 16	73-76 80-83	77 fpe 86 nil		"	8
30	24	Nil	3	Nil	19-22 26-29 33-37 41-44	21-6 nil 31 pec 38 pec 50 ec	25 pec 37 GFT+ 44 GFT-	Failure T.A.	17
31	28	—	8	—	15-18 21-24 33-37	20 pc 30 pec 37 pe 47 pe	26 pe 36 ed	" "	13
32	25	—	26	Ep. R. 27	44-47 50-54 61-65	48 pec 55 pe 68 pec 75 pec	45 pec 55 pec 72 GFT+ 79 GFT-	" "	14
33	21	—	49	Ep. R. 30	53-56 58-61	57 e 59 nil	57 fpe	Cured	8
4	31	1928	7	Nil	13-17 27-31 35-38	19 pe 23 Gc 35 Gc 43 Gc 50 Gc		Failure	14
35	30	Nil	97	Nil	97-101	103 pec	104 pec	Failure P.T.	5
36	34	—	5	—	11-15	18 pec	15 GFT-	" "	5
37	32	1926	1	—	3-7 10-14 17	9 pec 15 pe 17 U 17-35 nil	16 GFT+ 23 GFT- 40 fpe	Cured	11
38	35	—	2	—	16-21	22 pe 28 pec		Failure T.A.	6
39	33	1928 1931	34	Arth. 32	37-42	45 pec 56 Gc	35 7,000	" "	6
40	29	Nil	109	Ep. L. 44	109-115	116 pec	116 Gc	" "	7
41	37	1925 1926 1929 1931 1933	18	Ep. L. 4	21-27	23 nil	29 GFT+ 36 GFT- 43 ed	Cured	7
42	28	Nil	1	Nil	3-9 14-17 25-28	10 Gc 20 Gc 29 pe 30-36 nil 7 Gc	10 5,800	Failure T.A.	15
43	37	—	97	Ac. P. 28	100-106	106 nil		Cured	7

Columns 4, 5, 6, 7, and 8.—The numerals represent the number of days that the infection has been present.

Column 4.—The last occasion on which gonococci were demonstrated in a urethral smear prior to commencing uleron treatment.

c=Gram-positive cocci. d=debris. e=epithelial cells. f=few—less than four per field. Gc=gonococci. GFT=gonococcal fixation test. p=pus cells. s=spermatozoa. u=urticaria. P.T.=patient transferred. T.A.=treatment abandoned.

The cases are not in strict chronological order. Only the more relevant smears have been included. In all "Failure T.A." cases the discharge was present fourteen days after uleron had been stopped.

I wish to express my thanks to Surgeon Rear-Admiral L. Warren, O.B.E., for permission to publish these cases; and my indebtedness to Surgeon Lieutenant Commander A. R. Froggatt for the laboratory reports.

BIBLIOGRAPHY

- Felke, H. (1937). *Deut. med. Wschr.*, **53**, 1393.
Fischer, C. (1937). *Fortschr. Ther.*, **13**, 553.
Grütz, O. (1937). *Münch. med. Wschr.*, **84**, 1201.
Hoerlein, H. (1937). *Practitioner*, **139**, 635.

The belief, based upon clinical observation, that diabetics are especially prone to tuberculosis is of long standing. Fishberg (1932), however, was not convinced, and regarded the percentage of diabetics presenting tuberculous lesions at necropsy as not at all formidable. Root (1934, 1937) has investigated the point statistically by means of post-mortem records from various published papers in different countries from the years 1888 to 1932. In 1,121 necropsies on diabetics the incidence of active pulmonary tuberculosis was 28.4 per cent., and in 51,705 necropsies on non-diabetics 22.9 per cent. He interprets these statistics to signify that since "two diseases occur in association with less frequency than either one alone is found in a series of necropsies, it would appear that tuberculosis is about two or three times as frequent at necropsy as would be expected in diabetics." Analysing both the morbidity and mortality figures which deal with American hospitals, Root points out that the incidence of pulmonary tuberculosis in adult diabetics is not diminishing, despite the general decrease of tuberculosis mortality, and that this sequel occurs in juvenile diabetics more than ten times as often as among non-diabetic grade and high-school children in Massachusetts.

I am not aware of any recent mortality statistics bearing upon this subject in England and Wales, though Dunlop (1937) has published a clinical record of twenty-eight cases in Edinburgh. The Registrar-General's report (1937) shows that the mortality from tuberculosis is declining and that from diabetes is rising, the total number of deaths in 1936 from tuberculosis being 28,268 and from diabetes 7,119.

The Material Investigated

The post-mortem records of the London Chest Hospital, which is primarily concerned with the treatment of intra-thoracic disease, show twenty-one deaths (0.75 per cent.) from diabetes in 2,826 necropsies (1,138 with active tuberculosis and 1,688 with non-tuberculous diseases) between 1888 and 1937. Of the twenty-one diabetics four were not associated with tuberculosis and a fifth had only calcareous tubercles with puckering of the lung apices. The remaining sixteen had active pulmonary tuberculosis, and comprised 1.4 per cent. of the 1,138 necropsies with active tuberculosis.

Root's collected records of 3,575 fatal cases of diabetes show 5.11 per cent. with tuberculosis. The twenty-one cases of diabetes with a mortality from active pulmonary tuberculosis of 76.19 per cent. are too few to be comparable with Root's figures. Moreover, a selective influence has obviously been at work in admitting to a chest hospital diabetics with tuberculosis. Some information, however, may be derived from the details of the necropsies. Eleven of them occurred before the introduction of insulin and five after. Four of the sixteen cases were of the young adult type—a male aged 27 and a female aged 20 in the pre-insulin period and two males aged 28 and 23 in the insulin period. The ages of the other twelve ranged from 40 to 65, and were therefore of the middle-age group. Eleven of the patients were