The minimum inhibiting concentration of penicillin for *Bact. coli* diminishes to about 50% of its original value when magnesium ions are present in the culture treated with penicillin. It is interesting to note that exactly the same type of results was obtained with a strain of *Shigella dysenteriae*. It would thus seem that magnesium ions have the interesting property of converting normally insensitive organisms to a state more closely resembling that of the sensitive pathogens, probably by altering their metabolic reaction pathways. It is thus obvious that there is need for further work to assess the actual significance of (1) the Gram reaction in its relation to sensitivity or otherwise of the respective pathogens to penicillin, and (2) the assumption (Haslett, 1947) that the ability to produce penicillinase may be tied up with the absence of magnesium ribonucleate from penicillin-resistant organisms. Work on these aspects is in progress.

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LUGOL'S SOLUTION IN FAILING LACTATION

BY

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The capacity for satisfactory lactation shown by individual women depends on the quantity of breast tissue available and its degree of differentiation. It is unlikely that hormone therapy can significantly alter the quantity of tissue available, but it may influence a poor breast temporarily to secrete more milk. Dried thyroid gland may increase the rate of milk production since it raises the basal metabolic rate, and there is experimental evidence that this increase in milk output may amount to as much as 20–30% of the daily output. This effect is only temporary, and ceases when the hormone is omitted (Engel, 1947; Folley, 1947).

Partial or total failure of breast-feeding is common. Robinson (1943, 1947a, 1947b, 1947c) has described the results of hormone therapy in women whose lactation is judged likely to fail. As a result of this work it was concluded that dried thyroid gland caused a greater increase in milk yield than any other hormone. In view of this finding Lugol's solution of iodine was tried, and was found to be even more successful. It is difficult to explain why this should be so, for it is known that thyroid extracts and iodine have opposite effects upon the abnormal B.M.R.

Robinson (1943) test-weighed the infant on the fifth day, and if the milk output was less than 10 oz. (284 ml.) it was considered likely that lactation might fail. In a consecutive series of 99 such instances where lactation was judged to be failing test-weighing was done daily until discharge and again at the fourth week. Of these women 72 were treated as controls and the remaining 27 were given six drops of Lugol's solution in milk twice a day. (Lugol's solution: 5%

iodine in 10% aqueous potassium iodide.) This treatment was started on the sixth day and continued until discharge or until the output reached 16 oz. (454 ml.). Lugol's solution appeared to increase the milk output.

This work has been repeated in the present series using exactly the same indication of failure to establish lactation and the same dose of Lugol's solution. Test-weighing was done on the fifth day, and if the output was less than 10 oz. the case was admitted to the experimental series. Alternate cases were used as controls or given Lugol's solution as indicated. Unfortunately, routine test-weighing proved impossible after discharge, which was usually on the twelfth day after delivery. Concurrently all infants in hospital were test-weighed on the fifth and tenth days to provide an indication of normality. One serious difficulty was encountered in making the work strictly comparable, since in this maternity unit the technique of Waller (1937, 1947) is used both to encourage lactation and to avoid congestion. This involves antenatal and postnatal expression of the colostrum and milk and the administration of moderate doses of stilboestrol in the early phase of congestion. However, it was decided to use the milk output, as measured by test-weighing, as the indication of failure to establish lactation, but to record the total output (test-weigh and expressed milk) in the results. By this means it has been possible to estimate the effect of the iodine solution on total milk output whilst adhering to the criteria of Robinson; furthermore, in this way it is possible to ignore the sucking power of the infant.

Part of Waller's technique is to give stilboestrol early in breast congestion. Since it was considered possible that this might affect lactation adversely patients who had received stilboestrol were excluded from the trial series. Nevertheless test-weighing was done, and the results are recorded in the Table. In this particular group there were

Results of Tests

Group	No.	5th Day Output Bulk (oz.)	5th Day Mean (oz.)	10th Day Output Bulk (oz.)	10th Day Mean (oz.)
Normal at 5th day	151	2,330 (66.2 l.)	15.4 (436 ml.)	3,019 (85.77 l.)	19.9 (565 ml.)
Normal at 5th day. Stilboestrol given	11	190 (5.4 l.)	17.2 (490 ml.)	221 (6.28 l.)	20.0 (568 ml.)
Failed at 5th day. Stilboestrol given	43	238 (6.76 l.)	5.5 (156 ml.)	653 (18.5 l.)	15.2 (432 ml.)
Failed at 5th day. Controls	24	199 (5.65 l.)	8.3 (235 ml.)	362 (10.28 l.)	15.0 (425 ml.)
Failed at 5th day. Iodine given	19	167 (4.74 l.)	8.5 (240 ml.)	262 (7.44 l.)	13.7 (390 ml.)

54 cases. On the fifth day eleven had an output over 10 oz. and 43 an output less than 10 oz. This second group of possible failures who had received stilboestrol were not given Lugol's solution. The results in these two groups appear to indicate that stilboestrol does not adversely affect lactation itself, and since it diminishes engorgement and the tendency to abscess formation it seems reasonable to continue using it in moderate dosage, provided that it has no harmful effects on the female reproductive system as a whole.

It will be seen from the above results that Lugol's solution appeared to have no influence upon lactation, at least not a beneficial one. This is at variance with the findings of Robinson and would seem to nullify her conclusions that iodine increased the milk output and that failing lactation depended upon a deficiency of iodine intake. On the other hand, so far as these figures go it can be seen that stilboestrol given in the first few days of lactation has no permanent deleterious effect upon the milk output. It was considered unnecessary to append the statistical material from this work, since it did not clarify the results.

Summary

Forty-three cases of failure to establish lactation were studied, and Lugol's solution was given to alternate cases. This did not appear to affect the milk yield.

Stilboestrol did not seem to affect lactation adversely.

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Medical Memoranda

Gonorrhoea: A Plea for Diagnosis before Treatment

Even to the most impartial of medical men the plaint of genital discharge by a patient is apt at once to suggest gonorrhoea. That such a high index of suspicion should obtain is in its way commendable, but not quite so praiseworthy is the procedure sometimes adopted. These comments have been prompted by the tendency to administer sulphonamides and even penicillin to cases of urethritis and the like without first attempting to ascertain the cause of the discharge. The assumption that genital discharge is more or less synonymous with venereal disease is not confined to the uninformed and uncharitable layman. Too often the clinician, led astray by a history of coitus followed by genital discharge, takes for granted that the case is one of gonorrhoea. The next false step, prompted no doubt by a desire to cure the patient as quickly as possible, is to prescribe immediately what amounts to specific treatment without first obtaining bacteriological confirmation. Gonorrhoea is by no means the only cause of irritation of the lower genito-urinary tract.

But there are other aspects to be kept in mind—such as the effects of a wrong diagnosis on the state of mind of the individual and on the health of the community. Furthermore, gonorrhoea is capable of causing social repercussions, and it may lead doctor and patient alike into the witness-box. A categorical diagnosis of gonorrhoea, even if correct, is to most patients unwelcome; but a presumptive one, based merely on clinical impression to the neglect of modern diagnostic procedures, is quite unjustifiable, and amounts to professional negligence. A non-committal answer to the patient's question—a reply that the condition "may be gonorrhoea" and that it is "safest to treat as if it were"—may lead to gonophobia and may entail endless trouble before the unfortunate victim is rid of what are perhaps unnecessary fears.

INDISCRIMINATE DRUG TREATMENT

The epidemiological control of infectious genital diseases is becoming an important aspect of modern medicine, but proof or at least sufficiently reliable evidence of an infection in the individual is necessary before measures may be taken to trace and deal with the source of infection. The rapidity with which a few tablets of a sulphonamide or one injection of penicillin may efface all proof of gonorrhoea stultifies any belated attempts to establish a correct diagnosis on bacteriological grounds. Thus a source of infection continues to spread disease still further afield. The hasty and indiscriminate treatment of genital discharge with these drugs shows a complete lack of appreciation of the doctor's duty not only to the patient but to the community. Time and again the venereologist is requested to deal with a patient supposed to have gonorrhoea, only to find the task of arriving at a diagnosis impossible because of previous administration of one or other specific remedy.

The only proof of gonorrhoea is the demonstration of the gonococcus, and treatment should not be started until reasonably adequate measures have been taken to identify the organism. In these days of the rapid control of gonorrhoea with penicillin, when patients, particularly males, tend to seek advice early in their disease, the delay of a day or so while awaiting a laboratory report on a sample of pus is of little significance. In an acute urethritis, in males especially, treatment may be given almost immediately, provided a specimen of discharge is procured first; if the lesion is gonococcal it is almost certain that gonococci will be found. Greater caution is necessary in the case of females, or in any patient in whom the development of gonorrhoea is likely to be followed by important social or medico-legal repercussions, but there can never be any excuse for what virtually amounts to treatment without diagnosis.

The following instances are quoted as illustrative of these remarks.

AN ILLUSTRATIVE CASE

A married man was referred to hospital because of urethritis. The history revealed the following succession of events. Ten days previously he had extramarital coitus and four days later he had intercourse with his wife. Two days thereafter he developed an acute purulent urethritis, for which he consulted his doctor, who, without taking any steps to substantiate bacteriologically the diagnosis of "probable gonorrhoea," had prescribed sulphathiazole; and some 20 g. had been taken before the patient visited the clinic.

It was obvious that the situation was likely to prove difficult in several of the aspects which together determine the spread and control of infection. Clinically, it seemed likely that the condition had been gonococcal; but the sulphathiazole had done its work, and, though there was some residual discharge, it was impossible to prove gonorrhoea. The diagnosis was therefore in doubt. There were also two other problems—that of dealing with a possibly infected wife, and the examination of the other woman, who might still be spreading gonorrhoea. These two difficulties were temporarily shelved by the patient's refusal, because of negative findings, either to have his wife examined or to divulge the identity of the probable source of his infection. Six weeks later his wife developed a gonococcal salpingitis. He then disclosed the identity of his extramarital partner. Reference to the clinic register showed her to be a patient undergoing treatment for proved gonorrhoea who, subsequent to infecting the patient, had done the same to another man, who had brought her to the clinic for examination.

The sequence of incidents and the dates of their occurrence showed that, had a bacteriological examination been carried out in the married man in the first instance, it was highly probable that the development of salpingitis in his wife would have been averted, and that the infection of the other male would also have been prevented, particularly as the woman in question had been persuaded without any difficulty to come forward for examination.

OTHER EXAMPLES

A married man arrived at the clinic distraught over the suggestion of his having acquired gonorrhoea. Accidental contagion is extremely rare in adults, and the only probable source of infection was his wife. The supposition of gonorrhoea seemed justified; he had a very acute purulent urethritis, but a smear and a culture showed it to be staphylococcal. His wife was interviewed, and gave a history of a chronic infection of one of her Bartholinian glands. Examination corroborated this, and pus obtained from the gland gave a pure growth of staphylococci. Both were successfully treated, but their mental relief meant far more to them than the cure of their symptoms.

The need for caution is shown in another case, also considered gonococcal. The condition was somewhat unusual—a chronic inflammation of the lower surface of the glans and the fraenum, with a meatitis and a mild mucoid discharge. Though seldom seen in a clinic for venereal diseases, the condition was fortunately recognized as diabetic.

In the presence of a genital discharge, gonorrhoea must certainly be proved or excluded. Two errors are to be avoided: (1) clinical evaluation on naked-eye appearance alone, and (2) to begin treatment without previous adequate bacteriological examination. The plea for care in arriving at a diagnosis of gonorrhoea is put forward in the interests of the patient, the doctor, and the community.

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