GONORRHOEA IN NORTH AFRICA AND THE CENTRAL MEDITERRANEAN

BY

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During recent years the lay public, and even members of the medical profession, have come to look upon gonorrhoea as a condition in which "one just takes some tablets for a few days" and all is well. The danger of such complacency has become increasingly obvious as the campaign has progressed through North Africa into the Latin countries.

While the Army was situated in Algeria and Tunisia the response to chemotherapy ran a course similar to that experienced in the United Kingdom, and failures were usually attributable to irregularity of the treatment, insufficient fluid intake through shortage of drinking-water in very hot conditions, and the hardships of battle resulting in delay in starting treatment. In the last category metastatic complications, such as gonococcal arthritis, were common. Throughout the first months of the campaign sulphapyridine was the drug in general use, administered as a course of 20 to 30 g. in 5 days. Towards the end of the North African phase sulphathiazole, 10 g. in 2 days, was introduced. This was given in forward medical units, so far as was possible, to obviate evacuation. While the response to this form of therapy was not as good as the 90% claimed in the United Kingdom, the 70 to 75% satisfactory results materially conserved man-power and hospital accommodation.

A very different picture presented itself when the campaigns in Sicily and Italy began. Forward treatment of gonorrhoea failed almost completely, and as at first the venereal diseases expansions were still with general hospitals in North Africa, these unsuccessful cases had to be evacuated, and filled the beds of the expansions, which were thus retarded in their movement forward.

A well-staffed and experienced V.D. treatment centre opened in Sicily and, in conjunction with units of field ambulances, endeavoured to stop the need for evacuation to general hospitals. It was immediately evident that short courses of chemotherapy were useless. Less than 25% were responding, and of these a large proportion relapsed on the way back to rejoin their units. Dosage was increased to 25 to 30 g. of sulphathiazole or sulphapyridine in 4 to 5 days, there being apparently little to choose between the drugs. Second courses were necessary in 70 to 80% of cases after 5 to 7 days' irrigation treatment, and as the battle progressed, with lengthening lines of evacuation, more chemotherapy was given, till large numbers of men reached the main V.D. units still showing gonococci in their discharges after receiving as much as 130 g. of various sulphonamides.

In these early days there was some irregularity in the administration of the tablets, but even when this was rectified the same dismal picture of failure continued. The economic conditions in Sicily and Italy which drove women to prostitute themselves for food and chocolate constituted a menace never encountered by our troops before, and the incidence of venereal diseases increased.

As the campaign has progressed northwards in Italy and expert venereal diseases treatment units have moved forward there has been a slight improvement in the picture, but considerably less than 50% of acute gonorrhoea cases respond to an initial course of 25 to 30 g. of sulphathiazole, and relapses are common. Irrigations for the succeeding 5 to 7 days, followed by a second course of sulphapyridine or sulphadiazine, have proved successful in a few cases, but resort to pyrexial therapy by means of intravenous T.A.B. vaccine during this second course of chemotherapy has become almost a necessity. Some success has followed the use of the standard Army gonococcal vaccine.

Gonorrhoea has become a disease requiring a long stay in hospital. Clinically there is a profuse urethral discharge, containing large numbers of gonococci, persisting for many weeks despite the treatment described. Involvement of the posterior urethra occurs early, with considerable incidence of prostatitis

and epididymitis. Epididymitis often occurs when the patient has been in hospital for several weeks under optimum conditions of rest and treatment, and is usually severe. Metastatic conditions such as gonococcal arthritis and iritis are rare. It has been freely suggested that we have met a sulphonamide-resistant gonococcus, due to inadequate treatment of the civilian women, but the shortage of the drugs in Sicily and Italy and the complete lack of treatment of infected civilians over a long period make this idea somewhat unacceptable. The restoration of adequate civilian treatment under the auspices of A.M.G. is progressing rapidly, but it is too early to evaluate results. Rather does it appear that the gonococcus now encountered is a non-reactor to chemotherapy and, further, that it does not stimulate natural antibody responses in the victim. Venereologists with wide experience in the United Kingdom, North Africa, and the Middle East are working together now, and none have previously met similar conditions. Our American colleagues have found the same conditions among their troops, and have had to enlist penicillin as alternative therapy, with considerable initial success. If throughout Europe similar difficulties are to be met in future campaigns, gonorrhoea will be an immense scourge, with resultant strain on medical personnel, hospital accommodation, and man-power. There is no longer reason for complacency.

Summary

Since the invasion of the Latin countries gonorrhoea has proved intractable to the former accepted methods of treatment by chemotherapy.

Treatment must be given regularly and prescribed with ingenuity. Adjuvant methods are necessary in a high percentage of cases.

Experienced venereologists and special treatment orderlies are required in greater numbers than before.

Every endeavour to prevent infection must be made.

Medical Memoranda

Fixation of Tissues from Cases of Malaria

It is common knowledge among pathologists that formalin reacts with lysed blood to produce a dark-brown deposit, and that this occurs both with blood lysed before death (e.g., in an extravasation) and with the intravascular blood which soon after death begins to undergo progressive lysis. This formalin-blood deposit unfortunately closely resembles the pigment produced in malaria, and it is thus important, as Lignac (1924) warned, to avoid the use of formalin as a sole fixative for malarial tissues.

Barrett (1944) has recently shown that formalin deposit can be easily removed from sections by immersion for two hours in picric alcohol, and hope was aroused that this might, after all, allow the use of formalin in cases of malaria. To test the effect of picric alcohol on malarial pigment, sections of various viscera (fixed in 95% alcohol and in Zenker's fluid) were treated for one and three-quarter hours; the malarial pigment was almost completely dissolved away. Thus treatment with picric alcohol does not differentiate between malarial pigment and formalin deposit. (Melanin, a possible source of confusion, was found in a section of a cerebral metastasis from a melanoma of skin to be apparently unaffected by picric alcohol.)

Formalin is in general not a satisfactory fixative by itself for tissues that are to be embedded in paraffin (Mallory, 1938), but it has one advantage that makes it of particular value to those interested in malaria: it is less lytic towards the fragile post-mortem erythrocyte than is any other common fixative. This property is utilized, formalin deposit largely prevented, and the tissues rendered suitable for paraffin embedding by the following procedure:

Primary fixation is carried out in formalin (10 parts with 90 of water) for 3 to 6 hours (or in formol sublimate if the tissues be less than 6 hours dead), followed by direct transfer to 5% aqueous mercuric chloride, in which fixation is continued for 5 to 20 days (Lendrum, 1941).

This method, which is the ideal routine fixative for human post-mortem material, is suggested for malarial tissues because of the minimal lysis and the clarity of the microscopical picture; but, since there is still a slight risk of deposit, it is essential that tissues from suspected malaria should also be fixed in formalin-free fluids. The two methods of this kind commonly used in the past were fixation in 90% alcohol (ethanol) or in Zenker's fluid. Both of these unfortunately cause lysis of

erythrocytes in post-mortem human material, although with Zenker's fluid this can be partially avoided by omitting the acetic acid.

The following method is suggested as the best formalin-free fixation for human malarial tissue:

Fix in an aqueous solution of 2.5% potassium bichromate and 5% mercuric chloride for about 6 hours, and then transfer the tissues directly to aqueous 5% mercuric chloride; in this, fixation continues without the danger of spoiling the common methods of staining, as may result from the prolonged action of bichromate.

This method gives the minimum of lysis of erythrocytes other than by the use of formalin, preserves the malarial pigment, and of course avoids the fallacy of formalin deposit.

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Obstructed Labour with Complicated Presentation and Exomphalos

The following case, which was treated in the London Mission Hospital, Neyyoor, Travancore, South India, may be of interest.

CLINICAL HISTORY

An Indian Christian woman aged 23 was admitted to hospital on Nov. 25, 1942. She was a multipara, in labour. She had previously had two normal full-term deliveries, and one child was living. Labour pains had begun 2½ days earlier, in the evening of Nov. 22, after spontaneous rupture of the membranes.

On examination at 11.30 a.m. on Nov. 25 her condition was only fair—temperature 100.6°, pulse 96—and she showed signs of exhaustion. The uterus was contracting strongly about every three minutes. The organ was rounded in shape, with the fundus lower than usual. It was difficult to make out the position of the foetus, but it was thought it might be transverse. Vaginal examination was made by the Indian doctor (many such examinations had been done by the barber—"midwife" with no aseptic precautions), who reported that there was full dilatation and the presenting part was a foot with either the head or a buttock, and high up. I then examined the patient and found a vertex presentation with a foot prolapsed on the left side.

In view of the patient's general condition it was decided to deliver her at once, and chloroform anaesthesia was administered. Podalic version was performed with difficulty, and in feeling for the second leg my hand came in contact with soft material, which felt like intestine or membrane. Although version was performed, the baby could not be born beyond the buttocks. The abdomen was to the mother's left, and coils of intestine could now be seen. There was no proper cord formation, but the umbilical vessels could be seen and felt. They were divided close to the child's body, which was then delivered without difficulty. The placenta and membranes followed almost at once. There was no undue bleeding. The patient's condition was no worse, and 1 c.cm. of ergotamine was given intramuscularly. That evening her temperature was 102.6°, pulse 98. Sulphanilamide 1 g. four-hourly was started, and 12 doses were given. She made an uneventful recovery, and was discharged well on Dec. 1, six days after admission, at her own request.

The baby was a full-term male and weighed 6½ lb. (a normal weight for a South Indian baby). The head was microcephalic, and deeply grooved on the left side where the leg had lain alongside it. There was a large exomphalos, with an opening in the abdominal wall 3 in. in diameter. Parts of the intestines, the liver, and spleen were prolapsed, and the heart also was lying outside the chest wall, enclosed in the pericardium. This was beating at a rate of 60 a minute. The child started to gasp as soon as it was born, at a rate of about 6 a minute. It lived altogether three-quarters of an hour, the respiration and heart rate gradually becoming slower.

Placenta, Membranes, and "Cord."—The placenta was large, diffuse, and thinner than normal. The chorion was normal. The amnion was adherent to the thin wall of the sac of the exomphalos. In this the umbilical vessels could be seen running separately to and from the placenta. They were slightly tortuous, but the distance from the placenta to the edge of the abdominal wall was not more than 6 in. There was no cord formation at all. It was unfortunate that in order to effect delivery the vessels had to be divided. The cut end of the umbilical vein could be seen entering the body on the lower surface of the liver, but the points of emergence of the umbilical arteries could not be seen.

COMMENT

In this case of obstructed labour delay appeared to be due to the absence of formation of an umbilical cord, and to the shortness of the vessels which ran to and from the placenta in the wall of the exomphalos. A foot had prolapsed, making a complicated vertex presentation. Delivery was effected by podalic version and division of the umbilical vessels. In spite of extreme exomphalos and moderate microcephaly the "monster" lived for three-quarters of an hour.

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Reviews

RESPIRATORY DISEASES

Diseases of the Chest. By Robert Coope, M.D., F.R.C.P. (Pp. 524; illustrated. 25s.) Edinburgh: E. and S. Livingstone. 1944.

In his preface to this book Dr. Coope states that it is an essay in medical education, and it certainly represents a departure from the standard modern technique of medical writing. The work is indeed an essay on the respiratory diseases rather than a textbook, and it is not intended to be a manual of reference. The author has deliberately subordinated the facts to the broad principles, and he has added a wealth of practical advice which is not usually found in standard medical works. In many ways this volume is more reminiscent of the wise, leisurely publications of fifty years ago. Occasionally his enthusiasm for giving advice leads the author to underestimate the common sense of his disciples: for instance, the comments upon the type of clergyman who should be allowed to visit a patient with pneumonia might well have been omitted. But, on the whole, this book succeeds in teaching a sense of proportion which is not to be found elsewhere.

The chapters on clinical examination and physical signs are particularly excellent and should be read by all students. The signs which are of real practical importance are carefully described, and the statement that many of the so-called classical signs "might now be considered of interest only to medical historians" will be accepted readily by clinicians, but perhaps less eagerly by those who are examiners. Unlike many writers on this subject Dr. Coope is free from idiosyncrasies, and there is nothing to bewilder the learner in his account of physical signs, while there is much that will clarify his ideas. The section on tuberculosis is fairly typical of the general method of approach to individual diseases. It is distinctly sketchy as regards the facts, but it lays down the broad principles of treatment with sound sense and human understanding. Other books may give more about the treatment of the disease, but this one will teach the student how to treat his patient.

Insistence upon fundamental principles has led to a certain light-heartedness with regard to detail, and there are some small inaccuracies which require correction: for example, the anatomy leaves much to be desired, and, again, the student reading about lung abscess would gain the impression that an empyema is a more common complication than an adhesive pleurisy. But to lay undue stress upon these small points would be unfair to the work as a whole, because the facts can be obtained from other sources, whereas this book teaches many valuable things that cannot be learnt from encyclopaedias. In fact this volume is to be commended to all students; they will find it easy to read and will not fail to profit from its wisdom.

THE U.S. DISPENSATORY

The Dispensatory of the United States of America. By H. C. Wood jun., M.D., and Arthur Osol, Ph.D., assisted by H. W. Younken, Sc.D., and L. Gershenfeld, D.Sc. 23rd edition. (Pp. 1,881. £5 5s.) London: J. B. Lippincott. 1943.

The *United States Dispensatory* has now reached its 23rd edition. It is a useful reference book, divided into three parts. In Part I are found drugs which are official in *U.S.P. XII*, the *National Formulary* (7th edition), and the *B.P.* of 1932 with its addenda. The method of dealing with each drug is very similar to that followed in the *British Pharmaceutical Codex*; there is a description of the drug, with details of methods of standardization and a short account of action and uses. Part II deals in a similar manner with drugs which are not official. The compilers of the *Dispensatory* have solved the problem of the very large number of drugs which they might describe by restricting severely their choice of unofficial drugs. Thus, while they take 1,237 pages to discuss official drugs, they confine themselves to 348 on unofficial drugs. The book would be more valuable if this proportion were reversed. Part III is concerned with processes and reagents and similar details referred to in the *United States Pharmacopoeia* or the *National Formulary*.