rectal treatment. This patient has no conscious memory of rectal trauma, yet an unconscious one is suggested by her showing great indignation concerning a pre-operative enema, and by the fact that at 17 years she was rectally examined by a woman specialist and suddenly fainted.

Such histories may perhaps be taken as direct support of the theory that vaginismus is caused by early trauma—and further indirect evidence may be deduced by the method of resolution of the disorder.

Conclusion

The technique above described for managing these cases came to be adopted many years before this theory was considered, yet its details seem very rational if the contention is correct. If we assume that each attempt at coitus or examination revives the infantile emotional trauma we have the perfect explanation for the hostile patient—rigid, with dilated pupils. So also is explained her surprise and relief when the examination is not insisted upon. However much originally the patient had protested, the attacking enema was rigidly completed. Here, for the first time, she is neither pleaded with nor overwhelmed. Rather she is left herself in control of the situation, and with the responsibility for refusal—and its consequent results—upon her own shoulders. This may well account for the sudden alteration of attitude so often shown. As it becomes evident to the patient that her ("transferred") fear and hostility are irrelevant, so the atmosphere of the scene alters. Giving her permission to refuse is often followed by exaggerated gratitude, which undoubtedly is propitious for co-operation and persuasion.

Here, too, may be the explanation of the fact that vaginismus treated by bougies and instruments seems usually to give unsatisfactory results: those patients who endure the treatment, while recognizing that they are no longer "too small," seem often to have had their difficulties even further increased. If this theory is correct such a result would clearly be expected, so that any such treatment should invariably be left in the patient's own hands and should not be relegated to the nurse in charge.

Since the original traumata would have been administered by women, it is possible that the sex of the medical attendant influences the degree of emotion transferred. Perhaps the handling of such cases is best managed in different ways by the male attendant. Certainly the patient's behaviour to medical examination and to coitus do not necessarily run parallel, some cases yielding best to one condition and others showing the opposite reaction. One might suppose that relaxation is best achieved when the emotional atmosphere differs as far as possible from the original one; so that the attendant, even if unfortunately resembling mother or nurse, should at least refrain from behaving like her!

Clearly there is scope for more knowledge about the effects of such early trauma in the male as well: for it is possible that here, too, may be found a basis for some sexual anxiety. If other observers corroborate these findings medical teaching will require to restrain a nursery practice which is by no means uncommon.

A Divisional Hospitals Council for Bristol and district was formed in 1941 and has lately issued its first annual report. The Nuffield Provincial Hospitals Trust authorized a sum of £1,000 to enable grants to be made by the Council in respect of hospital and ancillary medical services and also contributed £315 towards administrative expenses. A survey of hospitals and ancillary services has been undertaken in the Council's area by the Bristol Hospitals Commission, a body of 9 members, including Sir Farquhar Buzzard, who is chairman of the Medical Advisory Council of the Nuffield Trust. Inquiry was made whether it was desirable for further steps to be taken to promote co-ordination or expansion and as to the best means of financing and administering existing services. The Commission paid a second visit to Bristol this year to investigate the contributory scheme problem as it affected that area. During the year the new Divisional Council has taken steps to encourage the formation of similar councils in Bath, Somerset, and Gloucestershire, and a conference has been held with a view to creating a provincial hospitals council to cover Bristol and the West of England, bringing in the areas just named. The report states that valuable preliminary work has been accomplished in this direction.

RELAPSING FEVER IN ADDIS ABABA

BY

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This report is based on 340 cases observed during the second half of 1941.

The transmitting agent of relapsing fever in Abyssinia is, according to some textbooks (Manson-Bahr, Salvioli), the tick *Ornithodoros moubata*. Kirk, however, did not succeed in transmitting Abyssinian relapsing fever by infecting ticks. The spirochaetes in that country have been identified by Scaffidi as a regional variety of *Spirochaeta obermeieri*.

In the present series the spirochaetes were transmitted by the body louse. This is substantiated as follows: (1) mixed infections of relapsing fever and louse-borne typhus are common; (2) spirochaetes are often found in crushed lice collected from relapsing-fever patients; (3) ticks were not found, nor was there a single case in which the "tache noir" (the primary tick-bite sore) was observed.

Diagnosis

The tick film taken as a routine reveals the spirochaetes in most cases of relapsing fever, often also in the afebrile stage. Jaundice is very frequent. The enlarged spleen is as a rule tender. The rash is not easily seen on the dark skin of the Ethiopian, but is more visible than the rash of typhus or typhoid. It consists of small violet-red petechiae, the size of "rose spots," slightly raised, and not fading on pressure. The typical distribution is on the shoulders. Epistaxis is a very useful symptom. Bloody sputum or urine, and diarrhoea with blood, are often mentioned by patients but seldom observed in the hospital. Spirochaetes are sometimes found in the sputum. Pain in the left shoulder is quite common. Pain in the calves, common in other parts of the world, is rare in Abyssinia. The condition of the tongue has been found typical and helpful in the diagnosis of relapsing fever. Four stages may be distinguished. In the first stage, during the first 4 or 5 days of the disease, the tongue is stained brown as in not very severe cases of typhus. In the second stage, covering another week, the tongue is moist and clean. In the third stage the tongue is atrophic, and resembles very much the condition in pernicious anaemia. The fourth stage, not seen more than ten times, but which may occur more often, shows ulcers, single or multiple. The ulcers heal in a week or two without any treatment. Pain in the tongue is common in all stages. The blue tongue seems to be of no diagnostic significance. Systolic and diastolic murmurs are very frequent. In contrast with the murmurs occurring in other infectious diseases their frequency is striking. This and the presence of heart failure in Abyssinia, where rheumatic fever appears to be rare, leads to the assumption that relapsing fever may be one of the chief causes of cardiac lesions there. (Endocarditis of the valves has often been found at necropsy together with other pathological changes typical in relapsing fever.)

We found that serum of relapsing-fever patients agglutinates the Kingsbury strain of *Proteus* in a high titre, sometimes up to 1 in 3,200. A history of high pyrexia and chill, and positive XK agglutination with no spirochaetes in the blood, usually indicates a case of relapsing fever. If there is a second rise of temperature the spirochaetes are always found. Mariani, D'Ignazio, Barelli, and Pistoni have described a rare condition which they consider to be a benign typhus showing agglutination with XK up to 1 in 100. The cases they quote are by no means convincing, and we think there is no evidence as to the existence of a typhus-like disease with positive XK in Addis Ababa. Typhus-like diseases with a positive XK have been observed twice in this material; but the titre in both cases dropped considerably, while the X 19 rose steadily and reached its peak in the period that is usual in typhus cases. We consider, therefore, that the XK agglutination in these cases was due to relapsing fever, from which the patients had suffered previously.

The following table shows the diagnostic points in relapsing fever and the frequency of their occurrence. (Some of these points are really complications, but their early appearance renders them symptomatic.)

Spirochaetes in febrile period	100%
" in afebrile period	38%
Jaundice	72%
Rash	8%
Epistaxis	12%
Tongue symptoms	68%
Enlarged spleen	89%
Tender spleen	44%
Heart murmurs	38%
XK agglutination (done in 168 cases)	98%
Pain in left shoulder	4%

Complications

There is little to say about the course of the illness as all these cases were treated immediately and responded admirably to N.A.B. In about 6% malaria was found simultaneously, and the quinine treatment did not interfere with the N.A.B. (Our experience with typhus allows us to assume that the relapsing-fever infection provokes the malaria relapse.) Typhus in about 10% of the cases took its normal course. Jaundice (72%) was the most frequent complication, and formed no contraindication to the specific treatment. The next most frequent, and the severest, were haemorrhages from the mucous membranes (12%): if untreated the patients lose litres of blood. Occasionally bleeding in the central nervous system occurs, causing paralysis. Only three such cases have been observed; one of these patients died. Other complications are rare: oedema (6 cases), acute thyroiditis (3), parotitis (8), perisplenitis (4), infarcts in the spleen (2—both fatal). Spleen infarcts, however, are not always fatal, as we have found them occasionally in necropsies after death due to other causes. The last complication is pachymeningitis (3 cases—all fatal). In 2 of these 3 cases spirochaetes were found in the C.S.F. Examination of the C.S.F. in uncomplicated cases of relapsing fever revealed normal conditions. Dutton's spirochaetes have been found by Lodewyckx in the C.S.F. in 3 cases. In others a hyperlymphocytosis was noted.

Relapses occur in spite of treatment. In 16% of the cases there was one relapse and in 4% there were two relapses. The longest interval observed was 27 days.

Treatment

One, two, or three injections of N.A.B. are necessary, the first injection being repeated if the temperature does not fall the day after the injection or if there is a fresh rise. Haemorrhages if severe must be treated. After having observed that in some cases the blood did not clot, we started to estimate the "prothrombin time" and found it prolonged in every instance, even if not complicated by haemorrhage. As vitamin K therapy is the method of choice in prothrombin deficiency it was tried, and proved to be the ideal treatment. We used 5 to 10 mg. of 2-methyl-1:4-naphthoquinone in oily solution intramuscularly (1 to 2 ampoules of kapilin-Glaxo). Vitamin K preparations should, we think, be given in all relapsing-fever cases to prevent haemorrhages.

The case mortality was 3.5%. At necropsy, perisplenitis was found in almost every case, and sometimes infarcts in the spleen. Endocarditis was common.

Conclusion and Summary

Relapsing fever in Addis Ababa is transmitted by lice.

Spirochaetes are often found during the afebrile stage.

The rash has a typical appearance—a violet shade; and a typical localization—the shoulders.

Tongue pain, atrophy, and ulcerations are typical of relapsing fever.

Relapsing fever in Addis Ababa is assumed to cause cardiac lesions.

All cases show a positive agglutination with XK.

Haemorrhages from the mucous membranes are due to prothrombin deficiency and can be treated successfully with vitamin K.

Relapses occur in spite of N.A.B. treatment.

The mortality rate was 3.5%.

In cases of pachymeningitis, spirochaetes have been found in the C.S.F.

Perisplenitis, spleen infarcts, and endocarditis have been observed at necropsy.

I wish to thank the D.M.S., East African Forces, for the permission to publish this paper.

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MUSTARD-GAS BURNS

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The following recent experience emphasizes anew certain features of the effects of mustard gas.

On July 1, 1942, a site-decontamination demonstration involving the use of mustard gas was staged elsewhere in this region. Members of the Civil Defence Services of various areas were in attendance. By some mischance premature functioning of the demonstration weapon occurred, resulting in some of the spectators being affected, including 10 persons from this borough.

These patients had been entirely unaware of any contact with liquid mustard gas, which obviously had fallen in the form of fine droplets on their exposed skins. As a matter of fact, part of the bomb casing fell within two yards of the Gateshead party.

Photographs were taken of some of the burns on July 4 and 5, and two of these are reproduced here. The following abbreviated table summarizes each case and the length of the latent period:

Case	Latent Period	Site of Burns	Remarks
1	2½ hours	Left side of neck and temple; outer angle of orbit; left hand	
2	1½ "	Left side of neck and angle of jaw; back of left hand; front of right wrist	Faintness, nausea, perspiration on 2/7/42. Burnt by vapour in last war
3	Leg, 2 hours; neck, 8 hours	Left side of neck; right thigh and calf	
4	8 hours	Left side of neck and temple	
5	6 "	Bridge of nose; left cheek and face	
6	2½ "	Left side of neck; right hand. Small patch ½ in. below left eyelid	Nausea and vomiting on 3/7/42. Blister-gas burn in last war
7	14 "	Left side of neck and left hand	Nausea and vomiting, 3/7/42
8	12 "	Left side of neck; pinna and lobe of left ear	" "
9	About 12 hours	Left side of neck	
10	" 50 "	" " "	

When first seen the lesions took the form in all cases of a sharply defined raised erythema of the skin, and in 7 cases there were also varying degrees of punctate vesication of the burns of the neck. In one of these cases the vesicles continued to appear for a period of approximately 30 hours after exposure. One individual sustained burns on the leg due to