

secretion, but I hold that no perforation should be allowed to remain in a condition which is judged to be inefficient to secure surgical drainage.

Such perforations should at once be enlarged by incision and as much fluid as possible removed from the middle-ear by mopping, by inflation, and by suction with the pneumatic speculum. It is my custom then to pack the external meatus down to the edges of the perforation with thin strips of gauze—e.g., double cyanide, iodoform, chinosol, &c.—and to subsequently place a pad of boric wool over the ear and fix it by means of a bandage or specially constructed silk ear cap. The dry gauze dressing appears in early cases to have a fourfold advantage: (1) in preventing the risks of infection from without; (2) in securing an efficient and continuous drainage; (3) in checking that tendency to the formation of exuberant granulation tissue which I believe is largely fostered by the injudicious use of watery solutions; and (4) in affording physiological rest to the inflamed organ, a most important factor in my opinion and one too often neglected in such cases.

Where bone lesions are present or where involvement of the mastoid area is probable surgical measures appear to me not only justifiable but also necessary. I am willing to admit with Mr. White that "much of the doubt which still remains as to the value of irrigation is due to the fact that it seldom gets a fair trial," but at the same time consider that the more effectually we shut off where possible the risks of secondary infection from outside sources, the more effectively do we treat the simple suppurations occurring in the cavity of the middle ear.

I am, Sirs, yours faithfully,

Manchester, Jan. 23rd, 1899.

W. MILLIGAN.

## BORIC ACID POISONING.

*To the Editors of THE LANCET.*

SIRS,—In an interesting article published in THE LANCET of Jan. 7th Dr. R. B. Wild has called the attention of the profession to the probably frequent annoyances and the more rare, but still possible, dangers produced by the absorption of boric acid into the system. That boric acid is capable of producing skin eruptions when taken by the mouth in medicinal doses for a varying period is quite certain. During the last year I have seen two well-marked cases. In the first case an old man with stricture took half a drachm of boric acid per day for nine days. On the tenth day he began with an irritable papulo-erythematous rash on the face, trunk, arms, and legs. This continued to get worse in spite of treatment and a week or two later I was asked to see him. I suspected the boric acid and suggested it should be omitted. This was done and the rash rapidly disappeared. On resuming the drug the rash and irritation reappeared in two days. The drug was then finally omitted and the rash quickly faded. The urine contained boric acid for some days after the drug was left off. There was no albuminuria. In the second case a middle-aged man suffering from enlarged prostate was treated with 15 gr. of boric acid per day, the bladder also being washed out daily with boric lotion. After about fourteen days a papular rash appeared on the arms, legs, and trunk; it was very irritable. I ordered the drug to be left off and the rash quickly improved. On resuming it again the rash reappeared, to once more fade on leaving it off. There was no albuminuria. In another case an eruption was produced by biborate of soda. A young girl suffering from epilepsy was shown to me by my colleague, Dr. Duran Burgess, with an extensive mixed eruption produced by biborate of soda which she had been taking for three or four months. In this case the hairy scalp showed a seborrhœic scaling with loss of hair and the lower part of the trunk and buttocks were covered with an extensive erythematous, papular, and in part vesicular eruption.

In none of these cases were there any other toxic symptoms, but the eruptions in themselves are sufficiently annoying as they will not respond to any local applications and a proper diagnosis is of great importance. As regards the frequency of eruptions produced by boric acid used as a food preservative I cannot speak from personal experience, but it is certainly possible and I quite agree with Dr. Wild that when a case of extensive anomalous eczema appears without any previous hint of a tendency to such affection and persists in spite of treatment it is well to bear in mind the possibility of a boric acid rash and to examine the urine

for the drug. The test is so very easily performed and so delicate that any boric acid present will be immediately detected. If after that boric acid is found it remains only to ascertain how it has been taken in. Such eruptions, however, are not usually of a very serious nature, nor are toxic symptoms as a rule present, and provided the medical attendant is aware of the possibility of the cause the condition is quickly relieved. What I should like to draw attention to in connexion with Dr. Wild's excellent article is that the boric acid ointment and fomentations, although as a rule harmless and valuable, may become sources of boric acid poisoning and at times of serious toxic symptoms. My attention was first called to this subject by being asked to see a boy suffering from an intense "scarlatina-like" rash which had come on five days after a burn of the arm and neck. The burn was not very extensive or severe and the boy was doing very well until this rash appeared. He steadily got worse, the rash became more intense, and symptoms of toxic poisoning set in, ending in coma and death. The case is alluded to by Dr. Wild and was published in THE LANCET of April 11th, 1896. Since that time I have been especially interested in this subject and as a result of several observations I have come to the following conclusions:—1. That boric acid used as a dressing for wounds, either in the form of unguentum boracis or fomentations, is absorbed and may be quickly found in the urine. 2. That where there is an extensive surface, as in burns, it frequently produces a patchy erythematous eruption with or without rise of temperature and with slight toxic symptoms. 3. That these quickly disappear when the boric acid is left off. 4. That they may also disappear even if the dressing is continued, toleration of the drug occurring in some cases. 5. That if a sufficiently large amount be absorbed relatively to the individual resistance power very grave symptoms or even death may occur.

When it is remembered that the unguentum boracis contains 10 per cent. and the lotio boracis 5 per cent. of the drug and that it is no uncommon thing for an ounce or more of the ointment to be spread on lint, applied to the absorptive surface, and frequently renewed, it will be seen that a very considerable dose may be absorbed in a very short time. Almost all the serious cases of poisoning from boric acid recorded up to now have been where it has been locally applied to an absorptive surface, and I think we may fairly conclude that whilst taken by the stomach it may produce unpleasant skin eruptions of various kinds, it is when applied in large quantities to an absorptive surface that it is most likely to produce dangerous toxic symptoms which may prove the more dangerous because of the lowered condition of the patient and the increased assiduity in the application of the dressings whereby fresh fuel is added to the fire. As regards the character of the eruption which is present in these cases of extensive poisoning I can only say that it is usually erythematous in small rounded patches or running together into considerable areas and it tends to be marked where there is any pressure, but it is very variable and, in fact, is merely, in my opinion, an "erythematous response" which might equally well be called forth by other toxic substances, whether in the form of drug or other toxin.

I am afraid it is too much to ask you to insert any further account of my cases in a letter of this kind, which to be of any service would be of considerable length. Therefore, thanking you in anticipation,

I remain, Sirs, yours faithfully,

Sheffield, Jan. 10th, 1899.

ARTHUR HALL.

## THE MALARIAL PARASITE IN RHODESIA.

*To the Editors of THE LANCET.*

SIRS,—Mr. Dunley-Owen<sup>1</sup> has published two papers embodying some observations on the malaria parasite as found in Rhodesia. His results are most remarkable and in many points quite at variance with those obtained by the recognised authorities on the subject. As his remarks have hitherto been allowed to go unchallenged we think that it might be well to draw attention to these discrepancies, in the hope that statements so subversive of what is generally believed may be either withdrawn as mistakes or substantiated by full, adequate, and detailed evidence.

<sup>1</sup> THE LANCET, Sept. 24th and Dec. 31st, 1898.