symptoms following operation, and the general health of the subject at a period at least three years after the operation were investigated, and the results are shown in Table IV.

TABLE IV

No. of Cases	Type of Operation	Health Satisfactory	Required Further Operation	Still Have Symptoms	Not Accounted For
59	Cholecystectomy	51 (86.4 %)	1 (1.8 %)	2 (3.3 %)	5 (8.4 %)
25	Cholecystostomy	10 (40 %)	6 (24 %)	7 (28 %)	2 (8 %)

The case requiring further operation after cholecystectomy is of interest, and a similar condition following cholecystostomy has been observed and reported on by Judd and White in the Mayo Clinic publication of 1928.

In my case, at the first operation, a thick-walled gall-bladder, containing stones, was removed; no stones were palpated in the common bile duct, which was not opened. Four months later the patient, a stout female of 54 years, had recurrence of severe attacks of pain with jaundice. It was surmised that she must have a stone in the common duct. At the second operation the common duct was opened and no stone was present, but the pancreas was hard, nodular, and enlarged. Drainage of the common duct was carried out by means of a Deaver's T-tube for about six weeks, her jaundice and pain disappeared, and she has now been free of symptoms for two years.

Of the 24 per cent. of cases requiring further operation after cholecystostomy five had stones in the gall-bladder at the second operation, and one developed acute pancreatitis, requiring redrainage of the gall-bladder.

Summary

Up till the time of Wilkie's experimental work there was room for performing cholecystostomy in the belief that drainage might cure the condition of the gall-bladder. With the realization that the gall-bladder infection is intramural this operation is now reserved for acute cases. C. H. Mayo states: "It may be wise to preserve and drain the gall-bladder in cases of acute illness." A further indication for cholecystostomy may be the presence of thickening and enlargement of the pancreas where prolonged drainage of the gall-bladder is necessary.

Judging from the clinical results in this small series one has no hesitation in concluding that cholecystectomy is the operation of choice.

The report for 1933 of the Malaria Advisory Board, published as a supplement to the *Federated Malay States Government Gazette*, announces the issue of an up-to-date guide to the identification of anopheline adults and larvae. It is stated also that bamboo subsoil drainage had been tried for breeding-places in seepages from a banked-up pool. The bamboos were laid in a semi-green condition, and it was expected that they would last from two to three years, but even if they had had to be replaced yearly the cost of this would have been less than that of oiling. It is suggested that this method should therefore be particularly useful in the more remote places, where the skilled supervision required for oiling is not available. In view of the present financial difficulties more economical means of oiling had been carefully discussed, but where only a minimum of oil is used grave danger is to be anticipated unless constant, skilled, and intimate supervision is supplied. A modification of Dr. W. T. Quaife's brush method is being used throughout the Kuala Lumpur oiling area. This method is said to have the following advantages over ten-day oiling and older methods: equal or increased safety; much lower cost; thorough mixing of oil, water, and larvae; drains automatically swept clear of obstructions; and minimum damage done to the sides. An investigation showed that antimalarial oiling presented no particular danger to poultry.

PREVENTIVE IMMUNIZATION IN AN INSTITUTIONAL EPIDEMIC OF SCARLET FEVER

BY

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During the early part of 1934 an outbreak of scarlet fever occurred at the Bracebridge Mental Hospital affecting the female patients and nursing staff. The fever was of an unusually mild type, but none the less serious from the point of view of complications and infectivity. The first case, that of a nurse, occurred on January 27th, and during the ensuing six weeks sixteen other nurses and twenty-six patients contracted the disease. During the same period there were also twelve cases of septic tonsillitis and numerous others of a follicular type.

Type of Case and Complications

The majority of cases were generally atypical in character, the temperature seldom rising above 100° F., though the pulse rate was comparatively high; circumoral pallor was rarely seen, the tongue was only lightly coated, and palatine spots were absent. The rash was typical but usually transient, and was followed by normal desquamation. There was little constitutional disturbance, and of the thirty-one cases treated here only four developed any albuminuria (eleven nurses were treated by the public health authorities). So mild was the usual case that we should often have hesitated to diagnose scarlet fever had we not known that such a type was prevalent in the neighbourhood.

Otitis media occurred in two cases, multiple arthritis in seven, and bronchopneumonia in one case, which was fatal in a patient aged 71. Nephritis was not a complication in any case.

TABLE I.—Showing Age Incidence

	Up to 20	21 to 25	25 to 30	31 to 35	36 to 40	41 to 45	46 to 50	50 and Over	Total
Female patients	2	3	1	2	4	5	4	5	26
Female nurses	6	9	2	0	0	0	0	0	17

It will be observed that fourteen of the twenty-six patients affected were over the age of 40, two being 71 and 76 respectively, but it must be remembered that the average age of the patient population is comparatively high.

Preventive Measures

Cases were isolated as soon as diagnosed, but in an institution with 200 staff and 1,350 patients, many of whom are employed in different parts of the building, isolation of all contacts was found impracticable. It was decided, therefore, to immunize all susceptibles as demonstrated by the Dick test, the test being applied to the whole female staff and to all direct patient contacts. In order to save valuable time, however, ninety-two patients working in the kitchen and laundry were immunized without preliminary testing.

Immunization was effected by giving a course of four weekly intramuscular injections of scarlet fever prophylactic toxin (Burroughs Wellcome and Co.). This method was used in preference to the injection of one massive

dose of toxin, first, to prevent confusion between mild attacks of scarlet fever and the reaction to toxin, and secondly, to prevent the incapacitation of a large number of staff and patients at one time.

TABLE II.—Dick Test for Susceptibility, showing Age Groups

	Up to 20	21-25	26-30	31-35	36-40	41-45	46-50	Over 50	Total
Patients:									
Number Dick-tested ...	10	8	13	27	24	27	32	116	257
Number with positive reaction	1	3	5	6	4	4	4	8	35 or 13%
Nurses:									
Number Dick-tested ...	14	56	27	14	1	8	—	—	120
Number with positive reaction	7	20	7	5	0	0	—	—	39 or 32.5%

To minimize the risk of infection being carried to the male side, ninety attendants were Dick-tested, and eighteen giving positive reactions were immunized. Thus the susceptibility of the male staff was 20 per cent.

As expected, there was a much larger percentage of susceptibles among the staff, many of whom are under 30, than among the patients, but the comparatively high incidence of susceptibility in the elderly patients is to be noted. This was also borne out in the number of patients over 40 who developed the disease. No patient, and only one nurse, with a negative Dick reaction developed scarlet fever, but two patients and three nurses with positive reactions took the infection before they could be immunized. The cases of tonsillitis gave a Dick-negative reaction. Of the total (178) who received the full course of immunization none developed scarlet fever.

Conclusions

1. There was a coexisting and apparently aetiologically connected outbreak of tonsillitis, but these patients gave a Dick-negative reaction.
2. Although the infection was of a mild type the infectivity and tendency to subsequent complications (apart from nephritis) were in no way diminished.
3. The susceptibility to scarlet fever remains comparatively high among the elderly patient population of a mental hospital.
4. The method of immunizing by four weekly doses of prophylactic toxin can be carried out without discomfort or disability to the patients.
5. No further cases having arisen during the last six months, we are satisfied that an epidemic, such as has been described, can be rapidly and effectively controlled by the active immunization of all susceptibles, as shown by the Dick test.

We wish to thank Dr. John Macarthur, medical superintendent of Bracebridge Mental Hospital, for permission to publish these notes, and for the assistance he has at all times afforded us.

J. Berendes, writing in the *Münchener medizinische Wochenschrift* of November 15th, 1934, states that in tuberculosis of the skin and mucous membranes (as proved by Matzenauer for lupus) the Wassermann reaction is not seldom positive. Another source of confusion is the co-existence of lung tuberculosis with naso-oral syphilis, or possibly (but apparently much less commonly) with laryngeal syphilis. A third source is the fact—possibly explicable by the richness of the mucosa of the upper air passages in lymphatic tissue—that histological examination of biopsy specimens from syphilitic oral, nasal, or laryngeal lesions not infrequently shows the presence of epithelioid-cell tubercles and Langhans's giant cells, and leads to a confident diagnosis of tubercle. In illustration of the last point Berendes records four cases with microscopic characters of tubercle in ulcers of mouth, nose, tonsils, and larynx: the Wassermann reaction was positive and the response to anti-syphilitic therapy was well marked.

A NOTE ON SO-CALLED ACIDOSIS IN CHILDHOOD

BY

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Attention was recently drawn (*British Medical Journal*, October 27th) by Dr. K. H. Tallerman to recurrent attacks of vomiting in childhood. He emphasized their importance by pointing out their repeated interference with school life, and noted that these children are often said to be suffering from attacks of acidosis. In an investigation of forty cases he attempted to find some allergic causal factor and failed. He discovered that on a diet with increased carbohydrate and reduced fat they progressed more satisfactorily. He held out hopes for their future, but gave no basis for his hopes.

Survey of Cases

The following brief analysis of twenty-three children with similar symptoms is prompted by Dr. Tallerman's discussion. Each of these children was brought to the writer's notice with a diagnosis of acidosis already made by another medical man in whose neighbourhood the child had previously lived. Their symptoms—to be enumerated later—were similar to those of Dr. Tallerman's series, and it is interesting to note that every one of the twenty-three cases had an infection in the throat or nose or maxillary antra, and that after operation twenty are apparently cured. One has refused operation; one still has mild attacks when she gets cold, and one is still subject to feverish attacks. These cases have been seen within the last five years. Their ages vary from 4 to 13 years, the average being 7½. Of the twenty-three thirteen are girls and ten are boys.

Frequency of Attacks.—This was variable—from once a year to twice a week—though in no case was there any definite period between attacks. The frequency with which the attacks occurred at the week-ends was remarkable.

Exciting Cause.—The parents in several cases put down the exciting cause as chill after school games or over-eating, but it is impossible to give any information of value on this subject. In six cases the mother had warning of an incipient attack by the assumption of a voracious appetite on the child's part. In a further six cases constipation preceded the attack. Constipation was a very regular finding after the acute stage of the attack was over. It occurred in seventeen of the twenty-three cases.

The Attack

Suddenness of onset was a striking feature of the attack. The child might go to school apparently well and be sent home in the middle of the morning. The commonest onset was with headache, fever, vomiting. The headache was frontal or behind the eyes, and occurred in twenty cases. The fever varied from a slight rise to over 104° F. (over 101° in ten cases, and over 104° in two cases). It rarely lasted more than two days. Vomiting occurred in twenty cases. One case had vomiting without headache, and one case headache without vomiting. Three cases had migrainous headaches with visual phenomena. The tongue generally became furred, often thickly coated. The breath was offensive. In seventeen cases Gerhard's ferric chloride test for diacetic acid was done during one or more of the attacks and was in each instance positive. Many urines were examined between attacks, and diacetic acid was never found. The acute part of the attack lasted about two days, and convalescence varied from two days to a fortnight. Two cases showed unusual symptoms—namely, joint pains—during the attacks. Another had a cough with mild bronchitis. One complained of sore throat and difficulty in swallowing.