remaining organs are atrophied. (In all cases of sudden death, as in beri-beri, the thymus is enlarged.)

Low Cholesterol Content.

The Chinese normal cholesterol content is 0.62 (European 0.68). Women usually escape infection, probably owing to the regular menstrual cycle, which occurs about thirteen times yearly, each cycle being accompanied by increased cholesterol content of the blood. In gall-stone patients the content is raised, and I have never yet found evidence of beri-beri in a cadaver in which gall-stones were present (I examine about 1,500 adults and 2,500 children yearly).

X-Ray Diagnosis.

The pulmonary vessels and right side of the heart are enlarged first; then the left side of the heart enlarges. When convalescence commences, first the left side and then the right side clears up, and finally the pulmonary vessels resume their normal size.

Post-mortem Landmarks.*

"Water here, water there, water everywhere" well describes the condition of the body. Rigor mortis is either very rapid or very slow in onset (normal average 4 hours onset to 36 termination).

The heart looks fatty, and the heart muscle resembles bad beef; the right ventricle may be three times the size of the left. The lungs, stomach, intestines, bladder, and spleen are congested and oedematous. The kidneys show acute parenchymatous nephritis.

The nerve changes fall into three groups: (1) Changes without interruption of continuity. These are analogous to cloudy swelling affecting both axis cylinder and medulla; found in early stages. The condition terminates in (a) complete restoration, (b) advanced degeneration, or (c) atrophy in course of time. (2) Changes with interruption of continuity. The nerve changes are not diffused but are

*The detailed pathology is given in a communication to the *Transactions* of the Royal Society of Tropical Medicine and Hygiene.

localized in patches. All degrees of degeneration may be seen together, and the medullary sheath is fragmented. The continuity of the axis cylinder is not broken, but it may be charged with coarse and fine granules. There is little functional loss. (3) Atrophic changes occur later. The nerve bundles are greatly shrunken, with atrophy of the medullary sheaths. The axis cylinders are narrow and uneven, and the interstitial tissue is increased. Function is greatly disturbed. The arteries show irregularity of the tunica media, with spaces between the cells.

Blood count: finely granular oxyphils, 60 per cent., coarsely granular oxyphils, 5 per cent., basophil leucocytes 0.5 per cent., hyalines 20 per cent., lymphocytes 14.5 per cent.

The muscles show fatty degeneration, and there is often marked atrophy of the peroneals. Two forms of changes are to be differentiated: a primary change caused directly by the Kakke toxin, and a secondary one, the result of changes in the nerve supply.

The organs of the body have antineuritic powers in the following order: liver, heart, cerebrum, cerebellum, and voluntary muscle.

Oedema is most marked at the auriculo-ventricular junction in the heart. Atrophy is most marked in the testicles. Keratomalacia is found in some cases. Corneal opacity may suddenly appear and end in panophthalmitis. The administration of fat-soluble vitamin A quickly arrests this condition in the early stages.

In my opinion it is the vitamin deficiency which renders the body very liable to be overrun by the rank growth of bacteria, and this is the pivot upon which we should base our further researches.

I wish to thank Dr. P. Noel Bernard and his staff for their courtesy to me and kind help while in Indo-China and China; also Dr. C. Y. Wang for his confirmatory work on the bacteriological aspect of my researches.

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ASPIRATING THE CONTENTS OF THE STOMACH.

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WASHING out the stomach of a desperately ill but fully conscious patient ranks high among the most distasteful tasks in surgery; it is only natural to shrink from adding to the discomfort of the patient. Misdirected compassion, or fear of still further upsetting a patient who is already in a critical condition, may be determining factors in withholding the stomach tube in cases where it is strongly

will enable them to do so. Once the tube is in position the stomach contents can be aspirated with a syringe. A bladder syringe answers the purpose, but a well-fitting glass syringe, such as that shown in Fig. 2, makes for a perfected technique. After the contents have been aspirated the organ may be washed out with boiled water, or anything else which is thought desirable. No one who has had experience with the large red rubber tube, funnel, jug, and mackintosh apron would wish to return to them.

FIG. 1.

FIG. 2.

indicated—a form of conservatism which is often the antithesis of good judgement.

In those conditions where emptying the stomach may prove a life-saving measure the contents of the organ are known to be of a watery consistency; acute dilatation of the stomach, intestinal obstruction, and vomiting after gastro-jejunostomy are but a few of such conditions. The question which arises is, Why employ a large calibre tube to evacuate a watery fluid?

Ryle's small stomach tube (Fig. 1) can be swallowed without overwhelming discomfort and without shock. In the few patients who find that they cannot swallow the tube a little 10 per cent. cocaine sprayed on the pharynx

Speaking personally, I look back with a shudder on the older method, and every time I see the stomach contents being quietly and painlessly and effectively aspirated I experience a feeling of gratitude to Dr. Ryle for his invention.

Having once gained familiarity with the method one finds increasing fields of usefulness for gastric aspiration. Not only does the need for jejunostomy grow less, but there will be found occasions where the method may be employed as an aid to urgent diagnosis.

This note does not claim to express anything original; it is rather a plea for the more universal adoption of a very satisfactory principle.