Bornholm Disease in the South Pacific

SIR,—DRS. W. M. Jamieson and D. M. Prinsley (July 12, p. 47) state that they are aware of only one previous report of an outbreak of Bornholm disease in the Tropics (McDaniel, 1944). Two epidemics of Bornholm disease occurred in South Pacific Islands, one in Tonga and the second the following year in the Cook Islands. Tongatabu, the main island of the Tongan Kingdom, lies in about 20 degrees south latitude. It is a low coral island and, although within the Tropics, the climate is not excessively hot nor is the rainfall great. The hottest months of the year are January to March.

In February, 1946, the first case of Bornholm disease was brought to the hospital. This was a Tongan boy, aged 10 years, who collapsed on the road. The Tongan medical practitioner who first saw him suspected an acute abdominal emergency because of pain, tenderness, and rigidity of the right side of the abdomen. Examination showed that the signs were more marked in the upper right quadrant and that they lessened on passing down to the right iliac fossa. The temperature was 101° F. (38.3° C.) and there were no physical signs above the diaphragm. A tentative diagnosis of Bornholm disease was made, and the subsequent progress confirmed the diagnosis. This proved to be the starting-point of an epidemic which affected from 20% to 40% of a population of 16,000 people, mostly Tongans. The European population in Tonga is small, but they suffered equally with the native population.

The clinical picture did not differ from the classical description—sudden onset with diaphragmatic pain and fever. In a fair proportion of cases shoulder pain was noted, and in some there were also abdominal pain and chest pains. The temperature range varied, but readings of 104° F. (40° C.) were not uncommon. The acute stage generally lasted two to three days and recovery was rapid and complete. There were no deaths, no complications, and no sequelae. The epidemic lasted about four weeks in Tongatabu. It spread to other islands of the Tongan group. Reports from several of the out-stations mentioned numerous cases of "influenza with pleurisy." These were obviously cases of Bornholm disease.

So far as could be ascertained, none of the Tongan medical practitioners had ever seen or heard of similar cases, so that within recent times Bornholm disease, at least in epidemic form, has not occurred in Tonga. Tonga has free communication with the outside world by a regular monthly steamer from New Zealand. There is also a plane service from New Zealand, via Fiji, and occasional cargo boats from the Pacific coast of North America.

The second epidemic occurred in Rarotonga, the main island of the Cook group. Rarotonga lies about 600 miles due east of Tongatabu and in the same latitude. The rainfall is higher than in Tonga and the climate is warmer, although for a tropical island it is not excessive. The first case of Bornholm disease to be seen occurred early in January, 1947, but it was not until late in February, 1947, that the disease became epidemic. By the end of March the epidemic had burnt itself out. Clinically the cases seen were similar to those seen in Tonga the previous year, and the course of the epidemic resembled that of the Tongan epidemic. Rarotonga is served by a steamer from New Zealand and also by a weekly plane from New Zealand, which calls at Fiji, Tonga, and W. Samoa on the way. One of the native medical practitioners remembers a few cases of "pleurodynia" some years ago, but there is no record that the disease was ever epidemic.

Puka Puka is the most isolated of all the Cook Islands. It is situated in latitude 11 degrees south and is visited only once or twice a year. Puka Puka, or Danger Island, is a low coral atoll. At the end of March, 1947, the Resident Agent reported by radio an epidemic, described as "gastric influenza," which swept through the three villages on the island and finally died out in three weeks. There is no trained person on this island and it was difficult to get an accurate description of this sickness. The prominent symptoms appear to have been sudden onset, pain in the epigastric region, and fever. Mostly young people were affected, and recovery was complete in three days. The point of interest is that no ship had visited this island since October, 1946. This sickness may or may not have been Bornholm disease, but whatever the nature of the epidemic it is

hard to understand how it could have originated after six months of complete isolation from the rest of the world. Could the infective agent remain dormant for so long a period or could it arise spontaneously?—I am, etc.,

Rarotonga, Cook Islands.

FARQUHAR MATHESON.

Anaesthesia for Head and Neck Surgery

SIR,—DR. J. G. Bourne (Oct. 25, p. 654) has drawn attention to the use of *d*-tubocurarine chloride as an aid to endotracheal intubation. That *d*-tubocurarine chloride removes many of the difficulties associated with oral intubation cannot be doubted and has long been recognized, but I would question his method of administration. I agree with him that "it is difficult to predict the approximate dose of curare that is required for any individual." But emphatically the solution to this difficulty is not to give 20 mg. "quickly in one injection immediately after the thiopentone." Individual variation in the reaction to a given dose is characteristic of this drug, and more than one case of apparent idiosyncrasy has occurred. The single injection of 20 mg. into an anaesthetized patient seems therefore an unjustifiable procedure.

To render the administration as safe as possible Dr. John Halton and I have for long advised the following procedure. (1) The intravenous injection of a test dose of "tubarine," usually one-third of the estimated initial dose, followed by a pause of at least two minutes. The normal reaction of a healthy adult to this small dose (usually 5 mg.) is a sensation of heaviness of the eyelids, very occasionally diplopia, and little else. Anything in the nature of ptosis which *cannot be voluntarily controlled* is an excessive reaction indicating the need for caution in the further administration. (2) In the presence of a normal reaction the injection of the *d*-tubocurarine chloride is completed and followed immediately by (3) the dose of thiopentone. The induction of anaesthesia by this method has been carried out on many hundreds of patients, none of whom have complained of any unpleasant sensation before going to sleep.

The initial test dose has always given valuable information of the range of dosage likely to be required, and the administration of the *d*-tubocurarine chloride before the thiopentone produces a synchronization of the maximal effects of both drugs. This probably accounts for the fact that I have never had the slightest difficulty in intubating after 15 mg. of tubarine and 0.5 g. of thiopentone, a dose of each considerably less than appears to be required by Dr. Bourne.

I am glad that Dr. Bourne emphasized the need for full oxygenation of the patient after the induction prior to intubation. This gives added relaxation and, as he stresses, a little more time for introducing and fixing the tube. One wonders, however, whether the use of *d*-tubocurarine chloride is really required for operations of this type. In the average patient endotracheal intubation under vision can be performed rapidly and very satisfactorily under thiopentone and a local spray alone, and it appears to me that the upset of the respiratory function caused by *d*-tubocurarine chloride is unjustified for these comparatively superficial procedures.—I am, etc.,

Liverpool.

T. CECIL GRAY.

Duodenal Ulcer and Priority Foods

SIR,—On more than one occasion attention has been called to anomalies in the schedule of diseases governing the issue of priority certificates. With one notable exception the schedule seems just and reasonable, but I am more and more appalled by the colossal amount of milk and eggs that is squandered upon patients with duodenal ulcer by granting them 2 pints (1.1 l.) of milk a day and priority eggs. In the course of a year the milk so cast upon the waters would probably float a battleship (albeit one of a pocket variety). In the schedule, I. D. includes gastric, duodenal, and anastomotic ulcers. Few would grudge priority to those with gastric and anastomotic ulcers, as their symptoms are more frequent and severe, and moreover in point of numbers they are relatively far fewer. The incidence of duodenal ulcers is very high. It has, indeed, become a somewhat popular malady—and no wonder!

Now, if there is one thing more constant than another in the practice of medicine it is the long intervals of complete freedom