

OUR PRIZE COMPETITION.

WHAT DO YOU UNDERSTAND BY ANTI-TYPHOID INOCULATION? WHAT IS ITS VALUE? MENTION THE PRINCIPAL ABDOMINAL COMPLICATIONS OF ENTERIC FEVER, AND STATE HOW THEY SHOULD BE TREATED.

We have pleasure in awarding the prize this week to Miss Winifred M. Appleton, University College Hospital, Gower Street, W.C. 1.

PRIZE PAPER.

The method of preventive inoculation against typhoid fever was perfected by Wright for the protection of troops in the South African War and India, and has since been adopted as a routine Army measure.

Results show a marked protective influence against the occurrence of the fever in inoculated men, and when the disease develops mortality is considerably smaller than amongst the uninoculated.

Undoubtedly the more perfect the sanitary arrangements, particularly with reference to water supply, drainage and removal of sewage, the less likely the occurrence of enteric; but it is important for those unable to avoid risk of exposure to the infection to diminish susceptibility by inoculation by injecting a vaccine of dead bacilli *Typhosus*, subcutaneously, or intra-muscularly, with all antiseptic precautions, usually into the abdominal wall or the upper part of the arm.

To secure immunisation two doses are given, the first consisting of 500 million bacteria, the second, seven to ten days later, of 1,000 million bacteria. Some authorities recommend a third dose of 2,000 million bacteria.

It is advisable to refrain from strenuous work for two days after inoculation, as reaction is usually over by then.

Local symptoms present at the site of inoculation are redness, swelling, pain and tenderness. Constitutional symptoms may be malaise, nausea, loss of appetite, headache and feverishness.

In diagnosis, to differentiate between typhoid, typhus, para-typhoid or Mediterranean fever, the exciting organism is sought for by means of Widal Reaction, a test which particularly shows the agglutinative reaction of the patient's serum towards the typhoid bacilli.

After the second inoculation the agglutinating power of blood for typhoid bacilli increases about 300 times that of normal blood, the effect being at its height about three weeks after first inoculation, gradually diminishing until the protective influence passes off altogether in three to four years.

Inoculation should not be done on those

actually in the midst of an outbreak of enteric, because, for a short time after, inoculation enhances susceptibility.

Enteric is derived from the Greek word meaning the intestine, and is characterised by marked abdominal symptoms and the liability of serious complications developing in that region.

The bacilli produces inflammation of the lower part of the small intestine, lesions frequently forming near the ileo-caecal valve. Peyer's Patches are inflamed and swollen by infiltration of leucocytes, followed about the second week by sloughing and necrosis of tissues; in the third week the slough comes away, leaving ulcerated surfaces, and typical typhoid ulcers with undermined edges are formed; in the fourth week, if favourable, these begin to granulate, but healing is slow, and they leave no contraction in bowel wall.

The two most to be feared of abdominal complications are hæmorrhage and perforation, particularly in the third week.

Symptoms of hæmorrhage are:—

1. Sudden drop in temperature.
2. Increased pulse rate.
3. Aspect anxious and very pale.
4. Cold, clammy sweat.
5. Melaena.
6. Physical collapse.

Treatment.—Stop all food by mouth, elevate foot of bed, ice cap to abdomen, morphia or ergotin hypodermically, or opium per rectum, may be ordered and sometimes doses of chloride of calcium. Absolute rest and warmth are imperative. Rectal salines and feeds may be ordered in collapse.

Perforation symptoms:—

1. Sudden sharp pain in localised part of abdomen.
2. Fall of temperature.
3. Increased pulse rate.
4. Vomiting.

Immediate surgical treatment is required, laparotomy is done, the abdomen washed out, and the ulcer closed by suture. Cases operated on within twenty-four hours may recover, later it is rare. Before operation morphia may be ordered to relieve pain and diminish peristalsis. Tympanitis or distention is frequently present, and causes great discomfort. Apply turpentine stupes and give turpentine enemata.

The treatment of typhoid is mainly dietetic, because the alimentary tract is diseased. Nothing should be given likely to cause perforation, hence most doctors advocate fluids and jellies, with the addition of farinaceous foods (arrowroot, &c.) and whipped eggs. Feeds should be carefully graduated and regularly given to avoid distention and digestive disturbances.

Beef tea is sparingly used, because it may excite diarrhoea.

[previous page](#)

[next page](#)