

of the muscles of the intestinal and abdominal walls, and by the lesions of the mucous membrane. Under the influence of the unqualified dictum that fevers should be fed, a dictum much more universally applicable to typhus than to typhoid fever, many cases of the latter are injured by injudicious feeding. Not only may tympany and diarrhoea be promoted thereby, but the accumulation of imperfectly digested organic matter in the bowels may favor the multiplication of the specific materies morbi, and also the development of ptomaines. This question of feeding is, therefore, the fundamental one in typhoid fever, and should be treated with caution and minute attention in each case."

A well regulated and properly restricted diet, under the watchful care of an intelligent nurse, is therefore the first, the last, and the chief requirement.

The characteristic lesions of the intestinal glands already referred to are always present, though the number of glands involved may vary. The agminated are those chiefly affected. They appear swollen, prominent and injected. The mucous membrane covering them soon gives way, and an ulcer is formed, having for its base the sub-mucous or muscular coat, or if the ulceration continue deeper the peritoneal coat. What can be done in a remedial way for this condition of the bowels? The drugs which appear to be indicated are those that have either an antiseptic, a sedative, or an astringent effect, e. g., creasote, carbolic acid, iodoform, bismuth, *fel bovis*, hydrochloric and sulphurous acids, nitrate of silver, etc. Bismuth, in ten to fifteen grain doses every three hours, has proved very satisfactory to the writer in several cases. A combination of naphthaline and bismuth has been found efficient in controlling the catarrhal inflammation, and in correcting fetor. The good results obtained from the use of nitrate of silver by Dr. Pepper and his strong advocacy of it have led to its being employed very extensively. It is given from the outset to adults in doses of gr. $\frac{1}{6}$ to gr. $\frac{1}{3}$ three times a day, combined with small amounts of opium, or belladonna, or *nux vomica*, according to special indications; and to children it is given in the form of solution, in a thin syrup of acacia, in doses of gr. 1-24 to gr. 1-16 three or four times a day, to which may be added from one-half to two drops of deodorized laudanum.

Our next object in the treatment of this disease is to prevent, as far as possible, the accumulation

in the system of the products of retrogressive tissues changes, which is probably in great part the cause of the so-called typhoid symptoms. Efforts should be directed towards keeping the skin and kidneys active; sponge-bathing should be resorted to early, and kept up regularly at least twice in the twenty-four hours. The kidneys will usually be kept sufficiently active by adhering strictly to a liquid diet, and allowing the patient an abundance of fresh cool water. Some authors report favorably upon the early exhibition of digitalis, even before or without any subsequent indication of heart failure. This may be partly owing to its mild diuretic action assisting in the elimination of these morbid products.

The further treatment of this disease comprises the combating of the various symptoms that may arise.

The development of pronounced typhoid symptoms, especially a dry, brown, tremulous tongue, a rapid, weak pulse, parietic tympany, etc., calls for turpentine, or alcohol, or both; if there is obstinate constipation, a mild enema every other day; if excessive diarrhoea, the mineral acids, bismuth or naphthaline; to relieve insomnia, morphia hypodermically, or bromide and chloral in combination, given well diluted, or urethan, in thirty to forty grain doses, which is considered by some to be the safest and most efficient hypnotic.

The introduction of a new group of antipyretics is gradually withdrawing the use of quinine, in the treatment of typhoid fever, excepting in tonic doses, or where there is a marked malarial tendency. The regular cold sponge-bathing already referred to, careful dieting, and the selection of those drugs whose remedial effects upon the intestinal lesion are well established, will usually prevent the temperature reaching a very high elevation. Should it however rise to 103° or over, a ten to fifteen grain dose of antipyrin repeated when the temperature again rises, or a two grain dose of antifebrin every two hours will be found to act satisfactorily, and usually without any ill effects.

In the management of the convalescent stage little need be said further than that a return to ordinary diet may be allowed in from ten to fifteen days from the establishment of this stage. Usually the desire for food is very strong, but occasionally, though there is little or no return of the fever, the patient is quite listless and indifferent, the pulse quick and feeble, and there is marked muscular