

water is an antiseptic, and allays irritability of the stomach and intestines. The quantity of milk is not limited; the patient may take all his stomach will digest—usually patients will take from four to six quarts in the twenty-four hours.

After the patient has passed into the fourth week of the disease, you may find it necessary to administer cream and the yolk of eggs in connection with the milk.

Having considered the three most important things to be accomplished in the management of typhoid fever, I now come to the treatment of the accidents of the disease.

*Diarrhœa.*—I have told you that diarrhœa is one of the common symptoms of this fever; but it is one of which medical writers have taken special notice, and for the relief of which different means have been employed.

Let us for a moment notice the chain of phenomena of which diarrhœa is a link. The poison which produces this fever unquestionably has a specific action upon the intestinal glands and lymphatics. It is here that we find the characteristic lesions of the disease, and it is scarcely questioned that the typhoid poison, to a great extent, gives entrance to the system

through these glands and lymphatics, and here produces its primary irritation. Following the irritation and inflammation of the follicles, other portions of the mucous membrane become involved, and we have a catarrhal inflammation of the mucous membrane of the intestinal tract. The necessary consequence of this is a diarrhœal discharge. Is this diarrhœa to eliminate the fever poison? Certainly not. It is simply an indication that these intestinal changes are going on; it is not due to the elimination of the typhoid fever poison, but to the inflammation which the fever poison has excited in the intestinal glands, and the subsequent intestinal catarrh. When the diarrhœa is present in the earlier period of the disease, it is better to let it alone. The question may be asked, will it not exhaust the patient? During the earlier period of the fever (the first and second week) the danger is very slight. It has been proposed to treat this diarrhœa, which makes its appearance early in the disease, with alkalies, bismuth, pepsin, etc. It is claimed, if these remedies be administered, diarrhœa can be prevented, or, if it already exists, that it can be controlled. Theoretically, I see no reason for employing alkaline remedies, for the diarrhœal discharges are always strongly alkaline, and, from clinical observation, I am convinced that bismuth, pepsin, etc., have little or no effect either in controlling the diarrhœa or in preventing the intestinal changes which produce it. When diarrhœa commences late in the disease (during the latter part of the third, or during the fourth week of the fever), it is of a very different character from that which occurs during the first and second weeks.

Ulceration of the intestinal glands, and perhaps sloughing, has been established, and in addition to the extensive local changes, there is a septic element which enters into the causation of the diarrhœa at this stage. Besides, the increased peristaltic action of the intestines, which attends the diarrhœa, favors an extension of the inflammatory processes to the peritoneum, especially that portion which covers the intestine, which corresponds to Peyer's patches. In view of these facts, the diarrhœa should be arrested or held in check. For the accomplishment of this, there is but one remedy which can be relied upon—that is opium. My experience is against the use of astringents. If opium will not arrest it, you may expect little aid from astringents combined with opium as they are usually administered.

The use of opium is objected to by some, who claim that it diminishes the power of the heart's action; but in this disease, when administered in small doses, it seems to me to increase rather than diminish the heart-power. It is acknowledged that opium, more than any other drug, arrests the peristaltic action of the intestines; and that is what we wish to accomplish when diarrhœa is present during the third and fourth week of typhoid fever.

*Tympanitis.*—You will recollect that the tympanitis, which is sometimes so troublesome a symptom in typhoid fever, is due to gaseous distention of the intestines. Some assert that this gaseous accumulation is due to fermentative processes going on in the intestines; consequently, that the use of antiseptic remedies are indicated, such as muriatic acid, chlorate of potash, pepsin, etc. When this has proved a distressing symptom, I have usually found relief to be obtained by the application of turpentine stupes to the abdomen. Some claim that if turpentine be administered internally from the beginning to the end of typhoid fever, that tympanitis and the intestinal changes which lead to it and to the diarrhœa are much less severe. I am confident that the turpentine treatment, as it is called, does not have the controlling influence over this fever which has been claimed for it; but I am also certain that it is our most reliable agent for the relief of the tympanitis.

*Intestinal Hemorrhage.*—Hemorrhage from the bowels in typhoid fever (as I have already stated) is a serious accident, and may cause death by producing a fatal exhaustion.

When it occurs early in the fever, usually it requires no treatment; but when it occurs during the third or fourth week, or after convalescence is apparently fully established, it must be arrested as promptly as possible.

The occurrence of severe intestinal hemorrhages may sometimes be prevented by keeping the patient in bed. A typhoid fever patient should not be allowed to get out of bed from