

next two hours. If these signs should be followed by the appearance of blood in the stools, the question is settled; but if this does not occur, at all events, within three hours after an attack of pain and collapse, the graver condition of perforation may be strongly suspected.

In the course of the four or five hours after the onset of the attack, certain other signs indicating perforation may be present. Of these, persistence of the pain as the collapse passes off is the most important, and if this be followed by continual vomiting, with increasing immobility of the abdomen, both of which are signs of commencing peritonitis, perforation has almost certainly taken place.

There is another sign of great value which is elicited by the physician—namely, loss of liver dullness. Unless the abdomen is very greatly distended, the liver rests in contact with the abdominal wall, and a dull note is yielded when one percusses over it, but if there is free gas in the peritoneal cavity, the abdominal wall is lifted off the underlying liver, and the area that should be dull on percussion, gives forth a drum-like sound.

Now, gas that is free in the peritoneal cavity can only have got there through a hole in the wall of the stomach or intestine, so the disappearance of the liver dullness, if certain precautions are taken in its observance, is proof that a perforation has occurred.

The onset of perforation, however, is not always as distinct as this. For instance, the pain may either not be severe, or it may be masked by the fact that the patient has had opium in some form given to him previously, but the most important item from the nursing point of view is that in the course of an attack of enteric fever, any abdominal pain that lasts longer than an hour should arouse the suspicion of perforation having occurred; when vomiting sets in, this suspicion becomes almost a certainty.

As I have said, the inevitable result of perforation is peritonitis, and the curious point is that in very many cases, as the inflammation of the peritoneum advances, until the abdominal cavity becomes full of pus, the condition of the patient apparently improves, the pain decreases, the collapse passes off, and the patient *feels* much better. This is most deceptive, as it is apt to make one think that one's previous diagnosis of perforation has been wrong. Death when it occurs, as it inevitably does if the patient be not treated surgically, is usually sudden, and more or less unexpected.

The only possible treatment of perforation lies in immediate opening of the abdomen and discovery of the perforated ulcer. When this is found, it is sewn up as rapidly as possible with a continuous suture, and a drainage tube is inserted into the abdomen, which is then closed without delay. Treated in this way, about 20 per cent. of cases recover.

But for this treatment to be successful it is of

the utmost importance that the operation shall be performed as soon as possible after perforation has occurred, and this can only be done if the nurse will give the surgeon a chance by recognising herself when perforation *may* have occurred, and sending for him forthwith, and with this in view it is essential that she should remember that patients do not, as a rule, cry out or have sudden and theatrical symptoms when their intestines have given way; they more frequently have a pain which is thought to be merely due to the natural course of the disease. As a matter of fact, all abdominal pain after the first week is an unnatural, not a natural symptom, and, as such, should arouse suspicion.

With hæmorrhage from the bowel, the treatment is entirely different: opium, and plenty of it, is usually given, and the patient kept under the influence of this drug. Sometimes turpentine or adrenalin are useful, but opium is our sheet anchor. To give opium, incidentally, in the abdominal pain of perforation merely deprives us of the power of knowing that perforation has occurred.

In the case of hæmorrhage, it is of the utmost importance that the patient should be kept perfectly quiet, and that nothing warm should be given him by mouth.

The third complication that I have to mention is relapse of the disease. In the third or fourth week, or occasionally after the temperature has been down for two or three weeks, the patient has a second attack, resembling the first in character, though not necessarily in severity; occasionally a patient may have not one only, but two or three relapses.

At one time it was thought that these relapses were due to errors in diet, but it has now been shown that this is not the case, but that they tend to occur at a time when it was formerly the custom to begin feeding the patient on solid food. Nowadays, with the tendency to begin feeding with solids earlier in the course of the disease, the percentage of relapses has decreased.

It is more probable that relapses are due to absorption of the products of septic germs in the patient's mouth, and this brings their prevention very much within the province of the nurse. In fact, one of the most important points in the nursing of this disease lies in the proper care of the patient's mouth, but this, with the treatment of enteric fever in general, will be considered in a future article.

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The christian name of Miss Andrews, whose death while nursing cholera in India we reported last week, should have been announced as Charlotte, not Sarah. She was trained at the Stapleton Union Infirmary, where she remained for two and a-half years as Charge Nurse, leaving in October last to join the Lady Amphill Nursing Home in Madras. We much regret this mistake.

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