NOTE ON THE OPERATION FOR RUPTURED ENTERIC ULCER.

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Now that it has been acknowledged that Army Medical Officers are beginning to be able to recognise enteric fever when they see it, it may be of service to bring to their notice in the Journal the important subject of the treatment of that very fatal complication so common in these cases, namely, rupture of one or more of the ulcers which are pathognomonic of the complaint, as well as some statistics showing the expectation of successful results from surgical interference for conditions otherwise almost hopeless.

Operation for ruptured enteric ulcer is in this unfortunate position, as compared to other surgical procedures, that it cannot be expected to remove the cause which gives rise to the necessity for it. It may remove and neutralise the effects of a ruptured ulcer, but it does not tend to interfere with the disease to which the ulceration is due, nor to prevent its continuing and producing other similar ruptures. The recoveries therefore after the operation are not numerous; but they are more so than they were for some time after it was first performed, and they are likely still further to increase as the delay which is allowed to take place between the onset of symptoms and the interference of the surgeon is diminished; for the sooner the operation is performed after the signs of rupture show themselves the greater is the probability of success.

In the Transactions of the Clinical Society for 1902, Mr. H. I. Waring gives the results of five cases operated on by him, of which two recovered. Dr. Carr and Mr. Roughton state that only seven cases had recovered from the operation in the United Kingdom up to date, but Mr. Bowlby adds another of his own in the same volume; but in neither case is the total number of operations given. Senn, of Chicago, gives forty-nine cases with thirty-seven deaths, or a death-rate of 75·5 per cent., while Keen gives statistics of eighty-three cases with a death-rate of 80·8 per cent. From these figures, then,
it would appear that the average mortality of these operations is about 78.1 per cent. But while the results of operation may be as bad as those just given, it should be remembered that the death-rate from perforated enteric ulcer is far worse when operations are not performed.

The gravity of perforation and the fatality of operation depend very largely on the general condition of the patient when the complication occurs. Thus, if it happens during the height of an attack of enteric fever, between the fourteenth and twentieth days, the chances are very much more against recovery than if perforation occurs during convalescence or in the course of a relapse, when the patient is likely to be better able to withstand the effects of the accident and to bear operative treatment. Indeed, in the former case recovery is almost hopeless, while in the latter the expectation of life is fairly good.

The last two feet of the ileum is the site of the perforation in the vast majority of the cases in which it occurs; but the large intestine cannot be excluded, the sigmoid flexure being a fairly common part of the gut for the opening to be found in.

The operation should be performed as soon after it becomes evident that perforation has occurred as possible. The incision should be in the middle line, beginning close above the pubis and extending to the umbilicus, or even higher; this incision gives the best access to the various parts of the intestine in which the perforation may have taken place. The cæcum should first be found, and the lower end of the ileum examined for the perforation, all procedures for this purpose being carried out with the greatest gentleness lest other ulcers be broken into. If the patient be in an extremely bad condition it may not be possible to carry out any prolonged suturing operation; under these circumstances the best that can be done is to bring the perforation to the surface and attach a healthy part of the intestine to the skin, leaving the abnormal anus thus formed to be dealt with later on, if the case recovers so far. Thin silk is the best suture material, the Lembert stitch being used and the ulcer being turned in, not excised. The line of suture should be transverse to the length of the gut, as this produces less diminution of its calibre than if it was longitudinal. Next in importance to making a water-tight seam in the gut
is the washing out of the peritoneal cavity. Free irrigation
with boiled water, normal saline, or boric solution should be
practised, especial attention being paid to the recto-vesical
pouch, and the irrigation should be assisted in cleaning out the
deeper parts of the pelvis by the use of pledgets of gauze
wrung out of the solution for removing the extravasated intestinal
matter. Whatever fluid is used for irrigation it should be hot
—105 to 110° F.—in consequence of the well-known good effect
of hot irrigation in combating shock and collapse. When shock
and collapse are well marked, half a pint, or more, of normal
saline solution may be left in the recto-vesical pouch when the
incision is closed, as its rapid absorption acts in the same way
as intravenous injection.

All incisions for abdominal operations should be closed by
three layers of suture, two of catgut for the peritoneum and
muscles, and another of silk or silkworm gut for the skin.