September 2, 1916

ON THE SALT PACK TREATMENT OF INFECTED GUNSHOT WOUNDS.

Dr. J. E. H. Roberts, B.S., F.R.C.S., and Dr. R. S. S. Statham, M.R.C.S., Temporary Captains in the R.A.M.C., contribute to the *British Medical Journal* a most interesting article on the above subject, in the course of which they say :--

The method of dressing wounds with a firm pack of gauze and sodium chloride tablets, devised by Colonel H. M. W. Gray, C.B., combined with a preliminary free excision of the wound and lacerated and infected tissues, has in our hands given results which have effected revolutionary changes in our methods of treatment. During the last twelve months it has gradually supplanted other methods of treatment, until now we employ it in the majority of cases. At first we regarded it with suspicion and used it but half-heartedly; finding, however, that wounds dressed in this way became clean at least as speedily as those treated by other methods, and that the general condition of the patients improved owing to undisturbed sleep, increase of appetite, and absence of mental apprehension of frequent painful dressings, we ended by becoming complete converts to the method.

The operative details in connexion with a wound naturally vary with the site, nature, and degree of infection of the wound.

After describing the surgical technique employed, the writers say :---

With the exception of iodine for the skin, we do not apply any antiseptic to the wound.

The wound having been thus prepared, the salt pack is applied in the following manner. A piece of plain gauze, four to six layers thick, is lightly wrung out of 5 per cent. salt solution and carefully laid in the wound so that it is in contact with the whole of the surface. Care should be taken that this sheet of gauze is sufficiently large to cover the whole surface of the wound. If several smaller overlapping pieces are used, small spaces in which pus collects form at the lines of junctions, and there is also great danger of the pieces being displaced when the rest of the packing is inserted, thus leaving bare surfaces. When the wound is a deep one, the gauze lining is carefully carried down by the fingers within it to the deepest recesses of the wound. No spaces should be left, as they rapidly fill up with pus. A few 40 grain tablets of salt are now placed in the deepest part of the wound, or, if the wound is flat, placed on the surface of the gauze about

an inch apart. The interior of the gauze-lined wound is now firmly packed, somewhat in the manner of the old-fashioned petticoated tube, with a roll or long strip of gauze moistened in the same way. This strip is carried alternately from one end of the wound to the other, and numerous tablets of salt are laid between the successive layers. A handful of tablets should not be thrust in all together, as when they dissolve a cavity is formed. For a wound 4 in. long by 3 in. deep, ten to twenty tablets would be used. When the pack becomes flush with the skin surface a few more layers of gauze are applied, and over that a thick wool dressing, composed of at least three layers, completely encircling the limb. The whole is then firmly bandaged, so that the surface of the wound is kept in intimate contact with the pack, and all spaces which tend to form are obliterated. Really firm pressure should be used both in applying the pack and in bandaging. The elasticity of the thick wool dressing distributes the pressure and effectually prevents anæmia of the wound surface and congestion of the limb below.

Where a compound fracture is present, it is not usually possible to avoid leaving spaces between and around the fragments of bone, and therefore, in such cases, after placing the lining sheet of gauze, a large rubber tube is introduced down to the fracture, and the remainder of the gauze and tablets packed around it. This serves to prevent the tracking of pus along the bone. A hole cut in the lining gauze allows any discharge to gain free access to the tube...

After dressing, morphine tartrate grain $\frac{1}{4}$ is usually given, as most patients complain of pain for a few hours. In many cases, however, the pain is quite slight, and no analgesic is necessary. In the few cases in which pain has persisted exposed sensory nerve endings have been discovered, and these may be cut short under novocain. Successive dressings become less painful, and after the second an analgesic is usually unnecessary. A rise of temperature and increase of pulse-rate usually follows the manipulations, but unless these persist after twelve to twenty-four hours, no apprehension need be felt.

In the behaviour of the temperature and pulse the cases fall into three main classes. In the larger number the temperature and pulserate fall to normal on the second day, and remain so, except for temporary slight rises following the first dressings.

In another class the pulse-rate comes down at once, but the temperature comes down by lysis, taking four or five days to reach the

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