in their care of the patients, and never seemed to be able to do enough for them. Too much cannot be said in praise of the nurses who worked hard night and day doing their utmost to relieve the sufferings of their patients, to whose welfare they seemed to be devoted. They infused the same spirit into their orderlies, who one and all did most excellent work under the most trying circumstances.

ENTERIC FEVER IN SOUTH AFRICA: EFFECTIVE STERILISATION OF EXCRETA.

By MAJOR H. A. CUMMINS, R.A.M.C.,
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[SECOND REPORT.]

IN my paper on the above subject published in the BRITISH MEDICAL JOURNAL of November 10th, 1900, p. 1369, I stated that further investigations would be made regarding the efficiency of the process there described. Since that time the system has been largely used.

Surgeon-General Wilson, Principal Medical Officer of the Army in South Africa, and Dr. Turner, Medical Officer of Health, South Africa, approve of the method, consequently it has been introduced, and with success, into several hospitals, of which I may mention the following: The Imperial Yeomanry Branch Hospital, Pretoria; 19 General Hospital (late Model School Hospitals, Pretoria; two sterilisers in use); No. 7 General Hospital, Johannesburg; and No. 11 General Hospital, Kimberley. It is also used at the Pretoria Civil Hospital, and I believe it is to be introduced into the hospitals connected with the refugee camps.

Dr. R. W. Dodgson, on special service for bacteriology in South Africa under the War Office, was kind enough to make the two following series of experiments on the contents of the sterilising cauldron:

First Series.—One tube of broth was inoculated half a minute after an enteric stool had been emptied into the boiling cauldron. This tube showed an extensive growth of bacterial colonies. After twelve minutes four tubes were inoculated. They remained absolutely sterile. The same was the case with a tube done after thirteen minutes.

Second Series.—A fair quantity of enteric faecal matter was poured into the cauldron. One minute later a culture was taken, and so on every minute for five minutes. The tube infected after one minute showed a pure culture of large bacilli in chains. The other tubes were incubated for several days at blood heat, but remained absolutely sterile.

These experiments are interesting, inasmuch as they show that in these cases at least many bacteria survive for half a minute, while after one minute only one species remained alive; at two minutes all forms of life had become extinct. Even spores lost their vitality in spite of their usual tenacity of life.

The contents of all bed-pans, slop-buckets—in fact, anything likely to carry infection—are thrown into the cauldron. The multitude of organisms destroyed in this way is, of course, enormous, and the power of reducing these dangerous organisms to harmless organic matter on a large scale, as is done, is a matter of the greatest importance. The so-called “destructor” is unnecessary, as the sterilised matter can be disposed of like normal excreta.

The cauldron in use in this hospital has a capacity of 40 gallons. It is emptied every evening for cleansing purposes; 20 gallons of a solution of izal or crude carbolic acid in water, 3 ss to the gallon, is poured into it, and when this has been heated to near boiling point the apparatus is again fit for use. I desire again to point out that no nuisance is caused. Smell from the boiling cauldron is practically absent, and flies do not approach it. If the contents are not kept sufficiently fluid, charring takes place, with the evolution of ill-smelling gases. This can only occur through carelessness on the part of the attendants.

The sterilised matter taken from the apparatus during the day, and when it is completely emptied for cleansing purposes at night, has no smell, as the putrefactive bacteria in the original matter have been destroyed, while those introduced from the air, buckets, etc., after the matter has been removed from the apparatus, take over twelve hours to produce any fermentative action which could give rise to noticeable odour.

VENESECTION IN THE TREATMENT OF GUNSHOT WOUNDS OF THE CHEST.

By CAPTAIN F. J. W. PORTER, R.A.M.C.,
Colonel White's Column, De Aar.

LIEUTENANT R. was shot through the right chest on January 3rd when the force was ambushed by the Boers about 4 P.M. When I picked him up at 8 P.M. he was rather collapsed and very breathless, and his condition was critical. We reached camp by 10 P.M., and it was seen that there had been a good deal of hæmorrhage into the right pleural cavity. At noon on the following day he was put into an ambulance and taken across country towards Heilbron. He complained greatly of the jolting of the waggon, and one had to inject morphine to relieve his pain and discomfort. At 6 P.M. he was very livid and quite delirious.

At 8 P.M. his condition was so bad that I arranged to halt for the night. His pulse was small and the heart's impulse diffuse. The lividity was very great. I opened the median basilic vein and withdrew about 10 ounces of very dark blood. The stretcher was replaced in the waggon, and he immediately turned on the wounded side and went to sleep. Next morning he was quite rational and expressed himself greatly relieved. We marched until 4.30 P.M. and then reached Heilbron. We had trekked over 50 miles in 28½ hours. Next morning he was taken by train to No. 3 General Hospital at Kroonstad and has made an uninterrupted recovery.

I am perfectly certain that he would have died on the night of January 4th but for the venesection. His heart was unable to drive the blood through the undamaged lung, and was relieved by the reduction of the volume of blood in circulation. I cannot help thinking that many cases of this sort might be treated with great benefit in the same way, and also that many cases of ordinary pneumonia occurring in strong, full-blooded men might be treated by venesection with advantage.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

CONCLUSION OF A CASE OF REMOVAL OF SCAPULA FOR SARCOMA IN THE INFRASPINATUS MUSCLE.

IN the BRITISH MEDICAL JOURNAL of August 21st, 1897, I recorded the case of a girl, aged 8, in whom I had treated a sarcoma in the infraspinatus muscle by removal of the scapula. The tumour, which was reported on by Professor L. R. Sutherland, was composed of spindle cells mostly; there were also present round cells and multinucleated masses of protoplasm. The girl remained well till December, 1897 (twelve months after the operation), when she developed a cough. This continued till April, 1898, at which time there was evidence of consolidation of the left base. In the course of the following month she had hæmoptysis, and complained of “cramps” in the abdomen; ascites was detected. There was also some rigidity of the spinal column. Pleural effusion on the left side was noted on May 27th, and she died on the following day with dyspnoic symptoms just seventeen months after the operation.

Post-Mortem Examination.—Nodules of sarcoma were present in the heart and right lung and right third intercostal muscle; the upper lobe of the left lung had been transformed into a bulky tumour. The peritoneum and abdominal lymphatic glands were extensively involved. Tumours were found in the kidneys, adrenals, pancreas, stomach, intestines, liver, diaphragm, right ovary, and in the bodies of the last lumbar and first sacral vertebrae.

The Microscopical Examination was carried out by Dr. M. L. Taylor, of the Pathological Department of the University of Glasgow. He finds characters resembling, on the whole, those of the primary tumour in the scapular muscle (*vide supra*). All gradations are present, from spindle to round-celled growth. In the heart nodules some of the large spindles show transverse striation; there are also some multinucleated giant cells present. The giant cells largely predominate in the adrenal tumours, and some of them do not show nuclei. In the retroperitoneal glands, ovary, and intestines spindles predominate, while in the lung and intercostal tumour round cells are present in almost equal number with the spindles.

This case, from its clinical course, points to the scapular