

atmosphere, in the skin of the hands, in the patient's own skin, and possibly in the sponges, it might be expected that infection would be frequent; but it is to be remembered that during the operation the wound is kept covered as much as possible with sponges or a layer of gauze, that it is frequently sluiced with biniodide of mercury lotion (1 part in 2,000), and that, finally, it is closed, dusted with iodoform,¹ and covered with dressings impregnated with chemical disinfectants and antiseptics. In spite of all this, it will be seen that we attain but a moderate measure of success when delicate and scientific tests are applied. Indeed, as this work has proceeded, our ideas of an aseptic operation have considerably altered. Not only ought the final result to be aseptic, but also everything which may have been brought in contact with the wound. No surgeon has yet published such a result. We have, however, almost reached our ideal of perfection on more than one occasion. For instance,

On February 22nd, 1896, I removed a semi-membranous cyst from the popliteal space of a boy. At the operation, the skin of the surgeon, the skin of the assistant, the skin of the patient, the silk, the silkworm gut, the towels, and the sponge were all aseptic.

On May 2nd the wound was dressed. It was healed, and the skin was perfectly natural. A gelatine and an agar-agar tube were inoculated from the line of the wound, and placed in the incubators, the former at 20° C., and the latter at 36° C. They both remained sterile.

On March 14th, 1896, a similar case was operated on, but not with such a perfect result. In this the semi-membranous cysts were excised from both popliteal spaces. Before the operation the skin of the surgeon, of the assistant, and of both popliteal spaces of the patient, the towel, and the sponge were all sterile.

On March 23rd both wounds were healed. Gelatine and agar-agar tubes inoculated from the right side remained sterile, whilst similar tubes inoculated from the left grew the so-called staphylococcus epidermidis albus.

An operation for the removal by ligature of varicose veins in the leg of a young woman almost came up to our ideal of perfection. The skin of the assistant and of the patient were sterile, also the towel, sponge, and silk-ligature. When the first dressing was done, ten days after the operation, an agar-agar tube inoculated from one of the wounds remained sterile.

The difficulties of aseptic surgery were shown in a case of radical cure of right and left inguinal herniæ. At the operation the skin of the surgeon, the assistant, the Sister, and of the patient were all sterile, as well as the towel and the sponge. When the wound was dressed, on the ninth day, the right side was aseptic when tested with culture tubes, but the left was septic. However, both had healed by first intention. Some lotion had been applied to the septic side (left) before it was tested.

¹In conjunction with Dr. Black Jones I propose shortly to give the results of our fresh experiments with iodoform. They show, as did the former ones (*vide British Medical Journal*, May 28th, 1892), that iodoform only contains an occasional mould.

The wound made for the removal of a large lipoma from between the muscles of the abdominal wall failed to infect gelatine and agar-agar tubes when it was dressed on the thirteenth day. A good many silk sutures were buried in this wound, which was quite dry and perfectly healed.

The following operation wounds were also sterile when tested with culture media. A case of radical cure of an inguinal hernia was done on November 30th, 1895. When it was dressed, on December 9th, one of the fishing-gut sutures was taken out and put into broth, and another broth tube was inoculated from the line of the incision. Both were sterile. The wound was absolutely dry, with quite normal skin. No tests had been made at the operation.

Another case of radical cure of femoral hernia was also aseptic, and also a case of herniotomy for strangulated femoral hernia, followed by a radical cure. The last is interesting because it was an emergency operation, and tends to show that our methods are successful in that class of cases as well as in those done with deliberation. From the first case gelatine and agar-agar tubes were inoculated, and from the second gelatine and broth.

Finally, the punctures made for the division of the palmar fascia in a case of Dupuytren's contraction did not infect an agar-agar tube when the dressings were removed on the sixteenth day. Also the wound of an osteotomy of the femur did not infect either gelatine or agar-agar.

The kind of culture medium used for the foregoing cases has been mentioned because it may ultimately be found that some kinds are more sensitive than others. For instance, I am inclined to think that broth and gelatine are a little more sensitive than agar-agar, unless the latter is very fresh and moist.

The following cases were tested with culture media, and gave septic results:

A youth was operated upon for retained testis. An inguinal incision was made, and the gland easily transferred to the scrotum. The wound was dressed on the ninth day and was perfectly healed. It infected gelatine with a white staphylococcus which liquefied gelatine. A scrap of this boy's skin was tested at the end of the operation, and was septic. The silk and sponge were sterile. I regret I cannot say that the infection of the skin and wound were proved to have been the same; but I believe that they were. A similar wound in the groin, made for the radical cure of an inguinal hernia, was healed by first intention, and without a trace of redness about the scar. However, it infected gelatine and agar-agar. At the operation the skin of the surgeon and of the assistant, and the towel and sponge were all sterile, but the skin of the patient himself was septic.

Another groin wound made for the radical cure of an inguinal hernia was healed by first intention when dressed on the tenth day, but it infected gelatine and agar-agar with white and golden-yellow colonies. At the operation the patient's own skin and the skin of the assistant's hands were septic, also the towel. The surgeon's hands and the sponge were sterile.

DELICIOUS MAZAWATTEE TEAS.
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DELICIOUS MAZAWATTEE TEAS.
Grown in our own British Colony of Ceylon.

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