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ILLUSTRATIONS

OF THE ANTISEPTIC PRINCIPLE OF TREATMENT IN SURGERY.

By JAMES SYME, F.R.S.E.,

Surgeon to the Queen in Scotland; Professor of Clinical Surgery in the University of Edinburgh; etc.

THE following cases of wounds, compound fractures, and abscesses, selected from those that have been treated under my care in the clinical surgical wards of the Royal Infirmary, will, I hope, tend to illustrate and recommend the antiseptic principles of practice introduced by Mr. Lister, which, although of the greatest value, there is reason to fear are not yet generally understood or adopted. In the old days of surgery all the steps of a healing process were attributed to the effects of so-called "mundifying," "incarnating," and "cicatrizing" applications. In more recent times, lotions, simple, astringent, or stimulating, have generally been deemed sufficient; while, still more lately, since M. Pasteur ascertained that the decomposition of animal substances is mainly owing to atmospheric influence through the agency of its organic molecules, carbolic acid, with other antiseptics, have been variously employed to lessen the discharge and fœtor of suppurating surfaces. But it was left for Mr. Lister to conceive the fruitful idea of excluding entirely the noxious elements of air so as to protect completely from disturbance the natural restorative action, to which he attributed greater potency than had ever previously been suspected. Thus, while others had used the means just mentioned as correctives, he employed them as preventives, attributing no beneficial effect to their own action on the living tissues, and regarding them merely as a defence from the external source of disturbance. I am told that in one of the London medical journals there has lately appeared a doleful list of bad results from the treatment in question; but I would beg to suggest that, since it has proved so eminently successful in the Royal Infirmary of Glasgow and Edinburgh, such testimony tends to reflect rather on the practitioner than on the practice. The truth is, that the antiseptic system, in order to be employed with advantage, must be carefully studied and fully understood, theoretically as well as practically. The preparations employed by Mr. Lister, which have been adopted here, may be denominated carbolic oil, carbolic lotion, and carbolic paste. The composition of the first is carbolic acid and boiled linseed or other fixed oil, in the proportion of one to five; that of the second, carbolic acid and water, in the proportion of one to thirty; and that of the third, carbolic oil with whitening, in the proportions requisite for the consistence of soft putty.

CASE I. Parotid Tumour.—Mrs. T., aged 32, from Aberdeen, recommended to my care by Dr. Kerr, one of the surgeons to the Royal Infirmary of that city, was admitted on the 20th of November last for the removal of a tumour occupying the whole of the parotid region. It was of ten years' duration, firm consistence, and nodulated form, hardly admitting of motion, but very distinctly defined. On the 26th I performed the operation without any difficulty or injury of the *portio dura*, twisted the vessels, sponged the wound with carbolic lotion, stitched the edges together by silver sutures, and applied a plaster of carbolic paste. On the third day the wound was found to be quite healed; on the fourth the stitches were taken out; and on the eighth the patient went home.

There are few wounds less apt to heal by the first intention than that which results from the excision of a parotid tumour. The depth and

irregular form of the cavity, together with the oozing of blood from the glandular texture, which must be cut more or less during the operation, sufficiently account for the difficulty thus experienced; and the perfect union, without a drop of matter, which has just been related, may therefore be regarded as very satisfactory testimony in favour of the antiseptic treatment combined with torsion.

CASE II. Wound of the Knee-joint.—On the morning of August 10th, J. D., a farm servant, aged 53, while going out to cut grass in the neighbourhood of Carnwath, about thirty miles from Edinburgh, fell upon his scythe, which inflicted a severe wound on the right knee. He was put into a cart and conveyed to the nearest railway station, whence he travelled to Edinburgh, and was taken in a cab to the hospital. It then appeared that a wound, about four inches in length, extended obliquely across the knee, dividing the quadriceps extensor tendon, and affording free access to the joint. Carbolic oil was freely applied, by sponging the cavity; the cut edges, which had been widely separated, were brought together by sutures; a pledget of carbolic oil was placed over the wound; and a splint was applied to keep the limb straight. Not the slightest constitutional or local disturbance followed, the pulse never being beyond sixty-three; and on the fourth day, the wound being quite healed, the stitches were removed. On the 13th of September the patient left the hospital with the limb strong and flexible.

There are few more serious injuries than wounds of the knee-joint, even under the most favourable circumstances; and, when aggravated by their large extent, rudeness of the weapon that caused them, or roughness of the treatment to which they are exposed, they still more endanger the patient's limb and life. The very satisfactory result of a case in which all the adverse conditions were so conspicuously present, must therefore be considered a very remarkable, if not unprecedented, occurrence.

CASE III. Compound Fracture.—J. P., a boy, aged 5, was admitted on the 30th of September, with his leg so seriously injured by having been caught between the spokes of a cart-wheel, that it seemed at first sight to admit only of amputation. There was a compound fracture of both bones, and, in addition to this, a wound of the integuments and muscles almost completely surrounding the limb at a higher part. The bones were much displaced, and the soft parts severely bruised. Chloroform having been administered, the carbolic lotion was freely injected between the broken ends, and lint soaked in it was applied over the wound. The bones were then carefully adjusted, and retained in their proper position by lateral splints. There was not the slightest constitutional disturbance, or any discharge of matter from the cavity to the orifice of which carbolic paste had been regularly applied, and the limb is now perfectly straight and strong.

CASE IV. Compound Fracture.—A. L., a woman, aged 25, was admitted on November 18th, soon after sustaining a compound fracture of the tibia and fibula by falling down a stair. The carbolic lotion was injected between the broken ends of the bones; the carbolic paste was placed over the wound; and lateral splints were applied after the fracture had been properly set. There was no constitutional disturbance, and no discharge of matter from the cavity. The limb is now perfectly strong and straight.

The most remarkable feature of the last two cases, is the total absence of fever and purulent discharge from the cavity; the wound, in the course of a few days, ceasing to have any communication with the broken bones, and becoming quite superficial, so as to require merely the ordinary water-dressing.

CASE V. Psoas Abscess.—W. F., a man, aged 47, was admitted on October 28th, with a very large psoas abscess completely distending the triangular hollow of the thigh, and having the femoral vessels running over it. The patient stated that, about ten months previously, he had sustained a severe wrench of the spine in the lumbar region, and subsequently suffered so much pain at this part as to be confined for seven weeks to bed. Soon afterwards, he observed a small swelling in his groin, which had gradually increased. On the 11th, under the protection of lint soaked with carbolic oil, I opened the abscess by a free incision, and discharged more than a pint of purulent matter. The carbolic paste, spread on tinfoil, was then applied over the wound. Not

the slightest constitutional disturbance followed; and there was no discharge of matter from the cavity, there being merely a slight serous oozing, which gradually disappeared.

Not long ago, I should have declined to open this abscess, from feeling very sure that the effect of doing so would be a profuse discharge of matter, rapid emaciation, hectic irritation, irritative fever, and death; but now, even when there is reason to believe that the matter proceeds from diseased bone, the confidence derived from experience has removed all such fears; and, caries being regarded as the effect instead of the cause of suppuration, patients are no longer left to their fate under circumstances that would formerly have been deemed entirely hopeless.

CASE VI. Chronic Abscess of the Mamma.—C. A., a married woman, aged 25, was admitted on December 2nd, for a deep-seated tumour of the mamma, which, she said, had existed for twelve months. Having ascertained that it was an abscess, I made a free incision, and discharged six or eight ounces of purulent matter. As it then appeared that a considerable arterial branch was bleeding, and could not conveniently be either tied or twisted, a needle was passed through the wall of the cavity so as to convey a thread round the vessel on each side of the wound, which, being tied, prevented any further hæmorrhage. The wound having then been sponged with the carbolic lotion, was covered with the paste. On the 6th—that is, two days afterwards—the ligatures were removed, and neither then nor subsequently was there any discharge whatever, either serous or purulent. On the 9th, the patient was dismissed; and, at the end of a fortnight, she returned to show that the breast remained perfectly well. There are few surgeons who have not encountered great difficulty in treating abscesses of the breast, and who will not be able to appreciate the value of this extraordinary result.

CASE VII. Acute Abscess.—T. D., a man aged 59, was admitted on December 4th, with a very large abscess of the forearm extending from the elbow to the wrist, which, he said, had commenced about a fortnight before, and had been very painful. On the 5th, a free incision was made, under the protection of carbolic oil, and nearly a pint of purulent matter discharged; after which the paste was applied over the wound. On the 8th, there was a little serous oozing; on the 10th, it had nearly ceased; and on the 12th, the cavity was completely consolidated.

From such cases as those which have just been related, it is evident that there has taken place in surgical practice an improvement which promises to produce a great diminution of human suffering and danger. Some attempts have been made, anonymously and otherwise, to filch away from Mr. Lister the credit justly due to him for devising and establishing the antiseptic system, by representing the use of carbolic acid previously for other purposes as an anticipation of his treatment. But, although the agent was not new, the principles of its employment, the modes of its application, and the results of its effects, being so entirely original, I venture to hope that the members of my profession will no longer tacitly sanction such disingenuous and ungenerous conduct.

THE PERMANGANATES AS DISINFECTANTS.—The International Society for Succouring the Wounded in War has recognised the value of Mr. Condry's discovery of the disinfecting properties of the alkaline permanganates, and the great sanitary value of Condry's fluid, proved by the experience of the Prussian army surgeons during the Austro-Prussian campaign, by awarding to the inventor, Mr. Bollman Condry, of Battersea, their honorary medal.

FRENCH HOSPITAL IN LONDON.—A dinner was given on December 20th, at Verrey's Café, Regent Street, in aid of a London hospital open to all foreigners speaking the French language, when the chair was taken by M. Devaux. A French dispensary, established in 1861, has rendered gratuitous medical aid to more than 7,000 sick and indigent persons, and last year it was determined to found a hospital, in order to complete the work commenced in the dispensary, and to offer to those speaking the French tongue the succour which the Germans have for many years provided for persons of that nation. The French Government promised an annual grant, and the appeal to the French in London was so generously responded to that the committee felt justified in beginning operations at once, by hiring a commodious house at the corner of Lisle Street and Leicester Place, in the centre of the French quarter, where patients are attended by two French physicians of eminence. Liberal donations were announced. It appeared from the statement of Mr. Rimmel, the honorary secretary, that the hospital and dispensary are under the same roof, and offer to patients the advantage of a consultation-hall, a pharmacy perfectly organised, fourteen beds, and four chambers allotted to persons who, having some small resources, may be able to pay a moderate weekly sum towards their maintenance.

ON GRANULAR INFLAMMATION OF THE CERVICAL CANAL OF THE UTERUS.*

By FLEETWOOD CHURCHILL, M.D.,
President of the King and Queen's College of Physicians in Ireland.

MR. PRESIDENT,—With your permission, I propose to occupy the attention of this section for a short time with some observations on Granular Inflammation of the Cervical Canal and Uterine Cavity, but particularly the former. Scattered notices on the subject may be gleaned here and there from the writings of different gynaecologists; but the subject has been little noticed by systematic writers.† As the time allotted to each paper is so short, I shall not bring forward these notices; but give you simply the results of my own observations without, in the slightest degree, claiming priority for them.

I think the best illustration of the disease I can give you is the Granular Inflammation of the Conjunctiva—Granular Ophthalmia, as it is called. The disease consists in an inflammation of the mucous membrane of the cervical canal and, it may be, of the uterine cavity also, attended by the development of granulations. When we examine carefully by sunlight, we find the lining membrane generally bright red, or, if much congested, of a purplish red, colour; and can very plainly distinguish a great number of granulations, some very minute, others much larger, though never very large, scattered over or covering the surface.

Sometimes we find a granular condition of the cervix, with or without erosion. I have generally observed more or less vaginitis; it may be general or in patches; but I have rarely seen the vagina perfectly free from inflammation. I am not prepared to say whether this inflamed condition of the cervical canal is always a consequence or continuation of inflammation of the mucous membrane of the vagina, or a portion of it; but I think it very probable. I have, at any rate, seen granular vaginitis along with the same affection in the cervical canal.

Another symptom is, I think, quite characteristic of this disease—viz., a wide open os uteri. Sometimes the finger may be passed as far as it can reach; in other cases only the point can be introduced; but, with very few exceptions indeed, it is much more patulous than natural. Now, in all these cases of patulous os uteri, if you carefully examine the mucous membrane, you will find intense redness and granulations, except at one or two places, it may be, from which the mucous membrane has been stripped.

But you will naturally ask me, how we are to examine the inner surface of the canal. There are two means of doing so.

1. By the speculum with bright sunlight. The cervix uteri is always more voluminous than usual, and can hardly be embraced by the end of the speculum; but, when brought as centrally as possible, the pressure closes the wide os uteri, and it appears simply a prolonged slit. If one lip be separated from the other, by a slight hook—I use the one with which Mr. Spencer Wells raises the peritoneum in the operation of ovariectomy—we can quite easily see into the canal a quarter or half an inch; and, if so much appear inflamed and granular, we may fairly infer that the remaining portion is so likewise.

2. By the endoscope. I am indebted to my friend, Dr. Cruise, for my first view of the cavity of the uterus and for instruction how to use the instrument. He has added to my obligation to him by promising to attend here and give information as to its use to any one who may wish to understand it. I have since repeatedly used the instrument, and by it confirmed the diagnosis I had made from a sunlight examination of the lower portion of the canal.

In most cases, the canal is open enough to admit of the tube being passed with great ease through it into the cavity of the uterus; in some cases, it would admit a much larger tube. If, however, it should be too narrow, nothing is easier than to dilate it with a tangle tent or prepared sponge to any extent we please. Having passed the tube to the fundus uteri, sponged it out, and made our observations, we may turn its orifice to different portions of the cavity, and then, slowly withdrawing it, we can examine each successive portion of the canal, and there will be no difficulty in distinguishing the inflamed from the healthy portions. The amount of information we obtain, or could obtain, through so small a tube (and I have no experience yet with the larger) is not great. I think the plate given by Dr. Cruise of the inflamed mucous membrane of the bladder gives a sufficiently correct idea of this granu-

* Read in the Medical Section at the meeting of the British Medical Association in Dublin, August 1867.

† Since the above was written, I have had the pleasure of reading the fourth edition of Dr. Henry Bennet's work, which is so remarkable an exception, that I feel how little I have added, in this paper, to what he has told us so well.