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BY

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presented by the author.

FROM

THE MEDICAL NEWS,

August 25, 1888.

[Reprinted from THE MEDICAL NEWS, August 25, 1888.]

SOME GLIMPSES OF BRITISH SURGERY.

BY J. WILLIAM WHITE, M.D.

DURING a stay of some weeks in Great Britain I have had opportunities of visiting some of the best known surgeons and of observing their methods of work, many of which seem to me worthy of mention.

In Glasgow I had the pleasure of spending a few hours with Mr. Macewen, in the wards of the Glasgow Royal Infirmary, and was especially interested in the case, which he has reported in his paper on the Osteogenesis of Bone, of almost complete reformation of the humerus, after a crushing accident of unusual extent and severity. Most of the bone was lost at the time of the accident, and the fragments which remained were torn from their connection with the periosteum. They were reimplanted in the soft tissues and served as foci for a new formation, which has now given the lad a useful limb.

Two cases of the radical cure of hernia were in the ward, in the early stages of convalescence,—too early to permit of definite judgment as to the final result. Mr. Macewen's faith in the superiority of his method over other operative procedures in these cases remains undiminished, and he kindly spent some time in explaining to me, with the aid of models and specimens, the smaller details of his plan. An interesting specimen, taken

from a patient upon whom he had performed the operation for radical cure, some years ago, and who had recently died of acute disease, showed the entire obliteration of the internal ring and the associated pouch of peritoneum, which is aimed at by Macewen's operation. The thickening caused by the sac folded upon itself and placed within the ring was still perceptible. Macewen pays comparatively little attention to the canal itself and to the external ring, believing that the permanency of result, which is the object aimed at, can only be obtained by the more or less perfect closure of the internal ring and the fortification of the adjoining parts.

There was walking about the ward an interesting case of recent trephining for cerebral abscess, depending upon otitis media and diagnosed by cerebral localization.

At the London Hospital, with Mr. Frederick Treves, I saw a case of pancreatic cyst which had been tapped and evacuated a few days previously, the contents measuring one and a half gallons. The operation was undertaken for a supposed sarcomatous tumor, and Mr. Treves remarked that, among the sixteen cases which he had been able to collect, there was not one in which the diagnosis had been made prior to operation. Two cases, however, were reported in the *Chicago Medical Journal* during the early part of the present year, in which, if I am not mistaken, such a diagnosis had been made, in one case by Dr. Fenger, in the other by Dr. Steele.

In showing a case of hydrocele, Mr. Treves alluded to the treatment by injection of iodine as extremely unsatisfactory, remarking that there were at least 30 per cent of failures, but adding that, in many cases, this was due to the employment of an insufficient quantity of the tincture. If he had said that, in nearly every case of failure, the cause was to be sought in this direction, his statement would have been more in accord with our

Philadelphia experience. In many dozens of cases of this character upon which I have operated, or which I have observed in the practice of Dr. Agnew, or of my colleagues, I do not remember a half dozen failures where any attention was paid to proportioning the quantity of iodine employed to the size of the sac.

Mr. Treves treats all his compound fractures in the open air, according to the following plan: When the case is admitted to the hospital, the wound and surrounding part are cleansed, but no attempt is made to arrest the oozing of blood, which, in the great majority of these cases, is still going on. Iodoform is sprinkled in large quantities and at short intervals over the wound and adjoining parts, and this is continued sometimes for two or three days. At the end of that time a scab has formed, beneath which, Mr. Treves claims, cicatrization and repair take place in the most perfect aseptic manner. The infiltration of the muscles and connective tissue, which sometimes follows the sealing of the wound in compound fracture, while oozing is still going on, is thus avoided, and with the least possible disturbance of the parts. During the entire course of the case, the affected limb, with the necessary fixation apparatus, is kept uncovered, Mr. Treves believing that the atmosphere which surrounds such a part beneath the bed-clothes is much more likely to be septic than the general atmosphere of the ward. His results in a number of cases certainly seem to justify his confidence in this method, an elevation of temperature of even a degree being almost unknown.

I saw some excellent results in cases of extensive lacerated wounds and crushes involving joints, obtained by the unusually free use of irrigation. Instead of the usual drip, a stream of water of considerable size, almost as large as a little finger, is kept running over or through the injured part for long periods, with the result, in at

least three cases which I saw, of preserving limbs and joints which would have ordinarily undergone amputation or excision. The irrigating apparatus, so far as the supply is concerned, is directly connected with the general plumbing of the hospital, and arrangements for carrying off the waste are just being made. I have long been familiar with the excellent results obtained in similar cases by our own method, but would now feel inclined to try Mr. Treves's plan in cases of greater severity.

I saw many other interesting cases, among them one of hysterectomy, for a fibroid weighing twenty-two and a half pounds, accompanied with the removal of both ovaries and appendages, but have not time to describe them.

At the Children's Hospital, Great Ormonde Street, built on the site of a house formerly occupied by Lord Macaulay, I was greatly interested in the wards and the work of Mr. Edmund Owen. In a double osteotomy for outcurving tibiæ the operation was performed by the open method, the bones being divided with a saw. As Mr. Owen remarked, operations with the chisel in this region are apt to be practically open ones, even although the attempt is made to render them subcutaneous, and the use of the saw makes the whole operation so much easier and more rapid in execution. An excision of the shoulder-joint for caries was performed by him in a masterly manner, removal of the head of the bone occupying less than five minutes from the time of the first incision through the soft parts, and the whole operation, including the dressing, being completed inside of twenty minutes. A number of interesting cases of tenotomy, osteotomy and excision were convalescent in the pretty little ward which, although it was built twenty-five years ago, has hard wood floors and glazed brick walls and most admirable provision for light and ventilation.

The great prevalence of rickets in this country, as compared with our own, is quite apparent in the service of this, as of all the other London hospitals, nor does it seem to be confined to the large cities. Professor Humphrey, at Cambridge, called my attention to the number of cases of this sort which he treated in his out-patient service, which is derived largely from an agricultural population. He believes that the majority of such cases outgrow the deformity, as is shown by the comparatively small number of adults who are so affected. In deformities of a sufficient degree to require treatment, Mr. Owen greatly prefers operative measures to the use of apparatus, which he has found tedious and, in the main, unsatisfactory. Among his ward cases I saw one of reoperation for club-foot (the first operation having been performed by another surgeon), in which Mr. Owens had used the method recommended by Dr. Willard, of Philadelphia, and of which he spoke very highly.

A day or two ago I was present, by invitation of Sir Spencer Wells, at a private ovariotomy, which was particularly interesting as being the second one performed by him upon the same patient. The first operation, done in 1864, will be found reported in his series of cases as No. 94. The left ovary was then removed for cystic disease, the pedicle being treated by the clamp method then in vogue. The patient at that time was forty years of age. Now, at the age of sixty-four, a large multilocular cyst had formed in connection with the right ovary. The operation was done with the most careful antiseptic precautions and under the spray. A short incision was made through the scarcely discernible scar of the old operation, the pedicle of the former tumor being found attached to the abdominal wall a little to the left of the median line. One of the loculi of the cyst was tapped, reducing its size sufficiently to permit of its easy extrac-

tion. The pedicle was long and slightly twisted. It was ligatured first in two portions by transfixion, and then the whole mass was included in a second single ligature. The operation was done with extreme dexterity, as might be expected, but with apparent deliberation; it was, however, completed, including the stitching and dressing, in about fifteen minutes from the time the first incision was made. Sir Spencer was ably assisted by Mr. Meredith, one of the rising men in this line of work in London, who comes from an old and well-known Philadelphia family, although he has lived abroad almost all his life. Sir Spencer Wells shows no abatement in his outspoken opposition to the somewhat indiscriminate ovarian surgery of the present day, and believes that many hundreds of unnecessary and unjustifiable operations are now being performed,—operations which will not bear the test of time or further experience.

The anæsthetic employed during the operation was methylene, of which certainly not more than two or three drachms were used. There was no apparent period of excitement, the patient came rapidly under its influence and almost as rapidly recovered consciousness, and there were no alarming symptoms of any sort. It was administered by Dr. Day, one of the physicians to the Samaritan Hospital, who has given it in between twelve hundred and thirteen hundred cases, and without difficulty of any kind. The color of the face and the character of the respiration are his guide, no attention being paid to the pulse. I see that he has reported, in the *British Medical Journal* of July 14th, the interesting fact that twelve drachms is the largest quantity he has ever administered for an operation lasting one hour, and that Sir Spencer Wells has never occupied a longer time than this for even his worst operations, including nephrectomies, hysterectomies and all the various forms of abdominal tumors, with and without complications.

This statement as afterward confirmed by Sir Spencer Wells, in a conversation with me at his office, and includes a recent case of splenectomy, which recovered without a bad symptom.

My most interesting time in London has been spent in the wards and the operating theatre of Sir Joseph Lister, and I regret that I can scarcely do more than allude to the many interesting and remarkable cases which I have there seen. The admiration which I already felt for the man who has done more to advance surgery, to make it an exact science, and to lessen the sum total of human suffering than any other individual in the history of our profession, has increased by personal acquaintance with him. Like all the other truly great men whom I have ever had the good fortune to meet, he is perfectly simple and unassuming in his manner and very approachable by any one who comes to him with a desire to learn. As a teacher, he is clear and, at the same time, comprehensive, speaking in an ordinary quiet, conversational tone, saying but little during the actual progress of an operation, but explaining in advance, with great care, the indications for it, the particular method which he intends to employ, and his reasons for its selection. As an operator, he is deliberate, but very neat and accurate in all his work with the knife, wasting no time whatever, but sacrificing nothing for the sake of brilliancy. It is scarcely necessary to say that in all his work, from the preliminary preparation to the final dressing, the most minute and scrupulous attention is paid to antiseptic details—to the arrest of hemorrhage, to the provision for drainage, to the approximation of the wound without tension. His views as to the importance of all of these points have been fully and frequently described by himself and his followers.

As his antiseptic methods are constantly undergoing modification in his efforts to find the typically perfect

antiseptic dresssing, which shall be at once cheap, soft and pliable, non-irritating, yet permanently active, it may be worth while to mention the details of his present method. The skin is cleaned with a 1 : 20 solution of carbolic acid in a 1 : 500 solution of bichloride, the carbolic acid, by its affinity for oily matters, carrying the more active mercurial solution into the recesses of the skin, the mixture being much more potent than either the carbolic or bichloride solutions separately. Next to the wound, in place of the old silk protective, is laid a piece of gauze which originally contained Sal Alembroth, the latter ingredient being, however, first washed out of it in a 1 : 20 carbolic solution; this is with the idea of protecting the edges of the wound from permanent contact with the mercurial salt, which is more or less irritating. The carbolic in the piece of gauze, soon disappearing, leaves an aseptic covering directly in contact with the edges of the wound. Over this is applied a much larger dressing, consisting of from eight to sixteen layers of gauze wrung out of a solution of bichloride (1 : 4000), and over this numerous layers (eight to twenty) of gauze containing 3 or 4 per cent., by weight, of the biniodide of mercury. This salt, which is the latest antiseptic used by Lister and with which he is now experimenting, is comparatively insoluble, requiring 6000 parts of water, by weight, to dissolve it, although it is freely soluble in 200 parts of blood serum. The latter solution retains the most active antiseptic qualities. Its permanency and insolubility render it particularly valuable by lessening the probability of its being washed out of the dressings by the discharges. It is, however, extremely irritating, and not only the wound, but also the skin and surrounding parts must be carefully protected from contact with it by the interposition of the damp bichloride gauze already spoken of. It was interesting to see that, even in dressings which had remained *in situ*

for a week or more, and had been thoroughly soaked for that time in the wound discharges, the portion of gauze from which the red color of the biniodide had been thus washed out would still promptly give the characteristic reaction with sulphide of ammonium, indicating the presence of the salt in sufficient quantity to preserve the antiseptic property of the dressing. Over this, without the interposition of any layer of mackintosh, is placed the antiseptic bandage or cloth, made of the same gauze, soaked and dried in a 1:4000 bichloride solution, which serves to retain the dressings in place.

Sir Joseph is not yet prepared to publish the details of this method, and, with characteristic caution, is waiting until he has employed it in a sufficient number of cases to discover all its possible defects, and to test thoroughly and completely its full antiseptic value. I was greatly interested in observing his attention to even the smallest details connected with this method. As he went through the ward, dressing all the important cases himself, each portion of the gauze, as it was removed, was carefully inspected by him, the discolored or bleached areas tested with sulphide of ammonium, and any unusual stain or hue carefully noted. On each occasion that I have been with him he has spent from two to four hours in his wards, but the results there obtained amply justify the time and care which he bestows upon his patients.

In an excision of the breast for carcinoma, the patient being a large, fleshy woman, and the tumor of unusual size, I saw the whole of the large operating wound, including that made in cleaning out the axilla, united throughout almost its entire length by first intention at the end of six days. I noted that, in dressing this case, no effort was made to make pressure upon the flap, and that the arm of the affected side was included in the dressings, the bulk of which were placed behind it, near the posterior aperture, for drainage. A broad band

loosely applied, and a large piece of antiseptic gauze, also applied very loosely, completed the dressing, which at no time gave the patient the slightest pain or inconvenience. I have been accustomed, in dressing these cases, to apply the antiseptic roller with considerable firmness, with the idea of arresting any possible consecutive oozing and of promoting a rapid union of the flaps to the subjacent parts; but I shall certainly feel inclined in the future to apply looser dressings. Sir Joseph says, "When the patient is uncomfortable, you may be sure there is something wrong with the dressing."

There were in the wards two cases of ununited fracture of the patella, recently operated upon. In one case (a very large, powerful man), in which the lower fragment had been extremely small, Sir Joseph made passive motion for the first time at the end of the sixteenth day, explaining that he would have done so earlier if it had not been for the disproportion between the two fragments rendering the hold of the wire upon the lower one more insecure than usual. In the other case, which was of considerable standing before the operation, he had been unable to secure approximation of the fragments without incision of the quadriceps, which was much shortened. He elongated it by the method devised by his former pupil, Dr. Cameron, of Glasgow, which consists in first freeing the under surface of the muscle from the bone by means of a blunt instrument introduced beneath the upper fragment of the patella, and then incising obliquely the muscle itself at two places, the cuts beginning at the inner and outer edges, a short distance above the patella, and running parallel with each other nearly to the opposite edge, and extending through the entire thickness of the muscle. This permits of great elongation, without completely dissevering the continuity of the quadriceps. In this case, six days after the operation, on account of the restlessness and

intractability of the patient, muscular spasm occurred, followed by extensive oozing from these cut surfaces. A large clot formed, producing considerable tension, necessitating the removal of the stitches, and causing at two points a slight separation of the edges of the wound. I watched this for ten days, and instead of the flush, the suppuration, the elevation of temperature and the alarming symptoms which would usually follow such a hemorrhage into and about a great joint, the patient and the limb both remained perfectly passive, with absolutely no sign of either local or constitutional irritation, while the clot itself gradually contracted and the knee resumed its normal outline. During all this time there was literally not one drop of pus and not a trace of offensive odor. A severer test of Professor Lister's antiseptic methods could hardly be devised or imagined.

One of the most striking cases which I saw was an operation for the relief of the deformity caused by badly treated Pott's fracture. The fibula had been broken at the usual point, and there had also been a fracture through the base of the internal malleolus; the foot was so greatly everted that the limb was absolutely useless to the patient; this condition had persisted for more than a year. At the operation, the soft parts were turned forward down to the bone by an incision following the posterior border of the fibula and of the external malleolus; the fibula was divided at the point of fracture, the triangular space existing between the lower edge of the tibia and fibula, which was filled up with fibrous material of almost bony hardness, was cleared with the gouge, chisel and sharp spoon; the soft parts over the internal malleolus were then turned forward by a similar incision, and the mass of new bone, which was easily recognized, and which filled up the gap between the two fragments of the malleolus, was chiselled away. After this, the application of considerable force by means of

pulleys brought the foot suddenly, but perfectly, into position. The subsequent course of the case was absolutely uncomplicated, and the patient, at the end of three weeks, already had considerable motion without pain in the ankle joint.

In another patient, an anterior luxation of the radius of one year's standing, rendering the elbow joint almost useless, was cut down upon and reduced. An excision of the elbow for strumous disease; an excision of the knee for gelatinous arthritis, with most extensive caries of the bones; a case of angular deformity of the femur, with great shortening, were all operated upon successfully. That is to say, at the end of from two to three weeks the limbs were in perfect position, the patients were entirely comfortable, and there had been neither suppuration, hemorrhage nor fever.

In a case of strumous abscess, and in another of empyema, Lister employed the injection of iodoform and glycerin (1 : 10) recommended by Billroth, and in another case of psoas abscess, containing twenty-five ounces of pus, he used the largest amount of the iodoform emulsion which he has ever employed—three ounces. In the case of the abscesses, the cavities were first washed out with a 1 : 100 carbolic solution, after which the iodoform was injected and retained, antiseptic gauze being fastened by collodion over the trocar puncture. The empyema occupied the entire right chest of a feeble infant, who had been previously aspirated; the pus was thick and curdy, and would not run through the trocar until a watery solution of bichloride (1 :4000) had been forcibly injected; after that a large quantity was evacuated. The opening through the skin was made with a knife, and was rendered valvular by first displacing the skin from over the site of intended tapping. A half ounce of the iodoform mixture was used, the canula was surrounded with wet gauze during its withdrawal, the puncture was

closed with sal alembroth gauze held down by collodion. The child was inverted and rolled from side to side for the purpose of diffusing the iodoform thoroughly through the abscess cavity.

In a case of extremely large ranula, which had been operated upon outside of the hospital by laying open the sac, the latter was carefully and completely dissected out by Lister, and proved to be dermoid in its origin. He remarked that in such cases, in which full antiseptic treatment is impossible, the wound being exposed to contact with the septic saliva, chloride of zinc (forty grains to the ounce) and iodoform are of the greatest advantage in preventing putrefaction for the first two or three days, a most important period, both because the freshly wounded tissues are then most susceptible to putrefactive irritation, and because they are at that time most actively absorbent.

I saw many other cases with Sir Joseph, but for want of time must reserve them for another letter. In his personal and home life he is as attractive as in his hospital wards. Among the many interesting anecdotes which I had the pleasure of hearing at his dinner table were two about his father-in-law, the great surgeon, Mr. Syme, which seem worthy of being recorded in a letter upon surgical topics. At the time Sir Joseph was making his earliest experiments in relation to the germ theory of putrefaction, he asked Mr. Syme, then in his sixty-fifth year, to observe the result of one of them, the now well-known method of preventing decomposition of animal fluids by the simple plan of allowing the atmosphere to gain access to them (after they have been boiled) through a glass tube which has been drawn out in curves. Of course, we all understand now that the preservation of the fluid under these circumstances depends upon the deposit, in the lower portion of these curves, of the

atmospheric dust and germs as the air enters. Mr. Syme took in the whole importance of the great natural law thus illustrated at a glance, and said that, although he would be deeply interested in further experiments, he needed nothing more to convince him. I told Sir Joseph that we had an equally conspicuous example, in America, of willingness to learn and practise new methods after the age of sixty, and he knew at once to whom I referred, and cordially agreed with me.

The other anecdote to which I referred was elicited by my remark that the advances of surgery in the past twenty years made many of the younger men of the present day feel as though there were but little left for them to do. Sir Joseph told me that in his very earliest days in Edinburgh, when he was still uncertain whether to remain there or to begin his work elsewhere, he consulted Mr. Syme. The latter told him that he would probably do well to stay there, but remarked, in almost the same words I have used above, that it really seemed as though there were not much left to do in the way of advancing surgical science, little thinking at the time that the young man he was talking to, his future son-in-law, would almost alone and unaided effect the greatest revolution in surgery, and bring about the greatest step in advance, which has been made since Harvey discovered the circulation of the blood. Lady Lister, as might be expected, takes an interest in all surgical topics, and especially in those connected with antiseptic work, which is only second to that of Sir Joseph himself.

The kindness and courtesy with which all the London surgeons treat their professional brethren from America is already well known, but I desire to add my testimony to the same effect, and to record the gratification with which I found that men like Lister and Wells (to say nothing of their younger, but almost equally busy con-

frères) were willing to give up so much of their valuable time to strangers, whose only claim upon them lies in their desire to learn whatever may benefit the sick or injured under their care.

London, July 28, 1888.