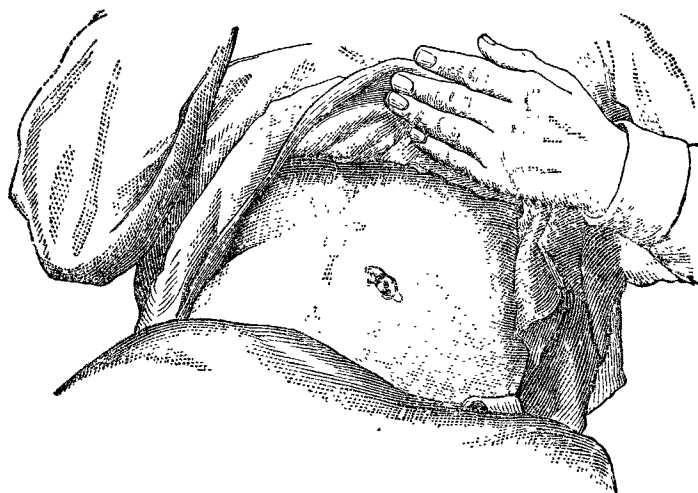


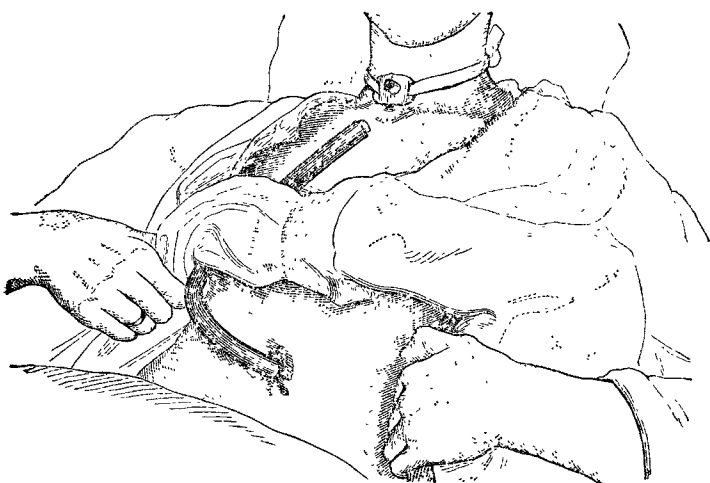
in eight cases. An incision is made parallel with the lower edge of the last lower rib and the abdominal cavity opened. A second incision is made in the eighth intercostal space, close to the juncture of the eighth and ninth costal cartilages, through skin and muscular tissues, in a direction obliquely from above downward and outward. The parietal peritoneum at this point is punctured by a pair of curved dressing forceps, or incised; this is enlarged by spreading the forceps. The thumb and index finger of the left hand are introduced into the first-made abdominal wound, and the stomach sought for at a point corresponding as nearly as possible to the fundus. This is grasped by the dressing forceps and drawn through the eighth intercostal space, until the stomach wall overlies the surrounding integument for the space of one centimetre. After covering the wound made first with antiseptic gauze, the stomach, in case the opening is to be made at a subsequent sitting, is sutured by means of its serous covering only to the edges of the wound. In case it is to be opened at once, the serous, muscular, and mucous coats are together attached to the opening in the intercostal space. The abdominal wound is then sutured. After numerous trials upon the

FIG. 1.



Case of cancer of the oesophagus at the level of the lower edge of the cricoid cartilage (Case 3). The illustration shows the gastrostomy wound with the feeding-tube withdrawn, and the complete sphincter action of the muscles of the parietes, by which action no food escaped externally. If the patient lay on his back for a few minutes after taking food he could afterwards walk about with freedom. The gastrostomy was performed on Nov. 6th, 1890, and the patient enjoyed good health till the end of the following July. During the autumn he lost flesh and became very weak; no involvement of lymphatic glands; tumour in oesophagus remained stationary. He was readmitted to the Royal Infirmary on Nov. 5th, 1891, and died on the following day from syncope and congestion of the lungs. Post-mortem examination: No great laryngeal obstruction, no glandular involvement or secondary formations. Microscopic section proved the tumour to be a scirrhus cancer.

FIG. 2.



Case of epithelioma of the oesophagus behind the cricoid cartilage (Case 4). Gastrostomy was performed on Jan. 29th, 1891, and tracheotomy on March 28th, for oedematous laryngitis. The illustration shows feeding and tracheotomy tubes in position. The patient improved during the spring and summer months, but when seen in October the cervical glands were involved and the larynx obstructed. She has not been seen since October.

FIG. 3.



Epithelioma of the lower end of the oesophagus (Case 7). The illustration shows the feeding tube withdrawn. Sphincter action was very complete, so that the tube could not be left out for more than a few minutes. The patient progressed favourably during the early summer, and the disease advanced very slowly; but not receiving proper attention at home, he was found dead in bed from starvation.

cadaver, Hahn found that there was no danger of wounding the diaphragm if care was taken to always select the space between the cartilages of the eighth and ninth ribs, inasmuch as the former has its attachment to the cartilages of the seventh rib towards the median line, acting in such a manner as to leave the eighth intercostal space uncovered and free for operation.

The advantages claimed for the operation are as follows:— 1. A small and contracted stomach can with greater ease be drawn forward and attached at this point. 2. The attachment seems to be more reliable than when made to the edges of the abdominal wound. The contents of the stomach, on account of the better closure of the opening, do not come into contact with the wound to the same extent as in the older methods. 3. The feeding of the patient can be better accomplished; the closure of the space by the approximation of the ribs acts as a pinch-cock, thus preventing fluids from finding their way out alongside of the feeding tube. 4. No obturator or other means of closing the opening later on is necessary. A gradual dilatation of the fistula, owing to the resistance offered by the cartilages of the ribs, cannot occur.<sup>7</sup>

By the results of the statistics of recent operations the surgeon is certainly encouraged to resort to gastrostomy as soon as the patient is unable to take sufficient food by the mouth, in those cases where it is inadvisable or impossible to feed him by tubes.

## A CASE OF SYRINGOMYELUS.

BY J. HUGHLINGS JACKSON, M.D., F.R.S.,

AND

JAMES GALLOWAY, M.A., M.B.

THE patient, Mary H—, aged forty-seven, is a stout healthy-looking woman. Her grandfather died at an advanced age in the Bethnal-green Infirmary, suffering from a nervous disease which caused contraction of the lower extremities. Her father and mother are alive and in good health. The patient's paternal aunt suffered from rheumatic fever, and her sister died in the London Hospital of heart disease following rheumatic fever. The patient was born in London, but spent part of her childhood in the United States. She has been married twice, and has had ten children. Of these, eight are alive and healthy, and two (twins) died in infancy. No evidence of syphilitic disease nor of alcoholic over-indulgence is obtainable; she has led a careful life, and has enjoyed good health in spite of the nervous affection to be described. Menstruation ceased two years ago.

When twelve years of age, while in St. Louis, U.S., she suffered from a cut on the radial border of the extensor surface of the right forearm, about two inches above the wrist. The tendons were exposed, but the wound seems to have healed after causing very little trouble.

<sup>7</sup> Centralbl. f. Chirg., No. 11, 1890.

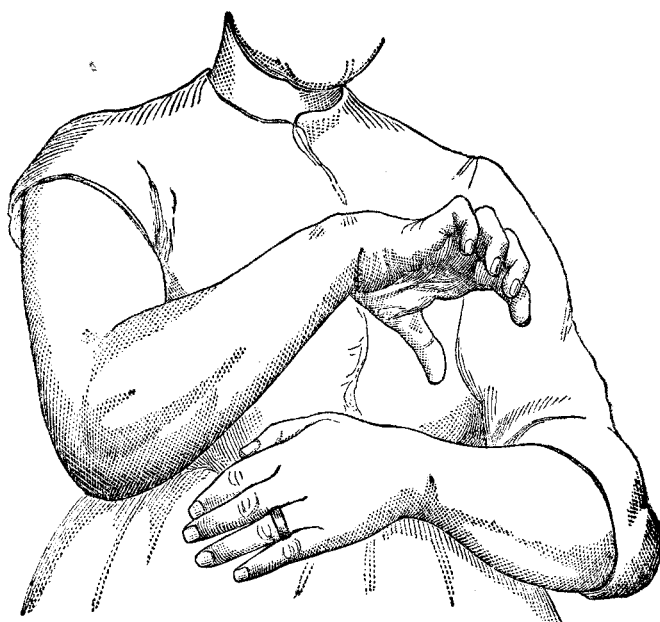
Twenty-two years ago, when pregnant, she had an attack which she calls sunstroke, while in the garden on a hot summer afternoon. On this occasion she remained unconscious for two hours and was under medical treatment. After this attack she observed that she was gradually losing sensation in the right arm and hand, and on the right side of the body. She is not quite certain that there was not some loss of sensation in this region even before the attack mentioned. The impairment of sensation increased, and she soon observed that there was loss of power in the forearm and hand, especially affecting the third, fourth, and fifth digits. Having to grasp objects by the right thumb and forefinger she felt awkward at work, and the arm became easily fatigued. Fifteen years ago she received a severe scald on the right forearm, and her attention was especially attracted to the loss of sensation about this time. Since that time she has frequently burnt and otherwise injured her right fingers and arm, being unable to feel that water was too hot for washing in. On a recent occasion she pinned her shawl into the skin of her right breast, and was unaware of the injury inflicted till some time afterwards. Twelve years ago she sustained a laceration of the skin over the right elbow. She thinks she poisoned the wound by removing a piece of skin with a pair of rusty scissors. There resulted considerable inflammation round the elbow, and an abscess, forming in the right axilla, was opened and treated in the ordinary way. For two years and a half at least she has noticed that the third, fourth, and fifth fingers have been contracted and stiff. Eight months ago, while wringing clothes in the awkward manner referred to—grasping by the right forefinger and thumb, resting the elbow on the edge of the tub and using the left hand—she suddenly noticed a cracking sound in the right elbow, and had to stop work on account of pain in moving the joint. The same night the right elbow swelled greatly, and remained large for many months. She says the elbow became “dropsical,” and she has been unable to use the joint effectively since that day.

In September, 1891, she was admitted to the London Hospital under the care of Mr. Waren Tay. The condition of the right elbow exactly resembled that observed in Charcot's joint disease, but no signs of tabes dorsalis were discovered. The arm was placed on a splint, the fluid became absorbed, and the elbow diminished in size. The joint, in spite of the great changes observed, was uncomfortable rather than painful. On leaving the surgical wards she was transferred to the care of Dr. Hughlings Jackson. The following conditions may now be observed: The right elbow and forearm are considerably larger than the left. The right elbow-joint is quite disorganised, and there is some, though not excessive, osteophytic growth in the neighbourhood of the joint. The forearm can be moved laterally at the joint for about a quarter of an inch with much grating. Movements at the elbow cause a little discomfort, but little or no pain; complete extension is impossible on account of the altered relations of the joint surfaces; the other movements are abnormally free, and are attended with grating in the joint. The right wrist has also been somewhat swollen, and slight grating can be obtained on movement. The third, fourth, and fifth digits of the right hand are permanently flexed and contracted, the second and first digits show similar changes, but not to the same extent. Wasting of the thenar, hypothenar, and interossei muscles is well marked. (Fig. 1.)

The following results of the reactions of the affected muscles to electricity are communicated by Dr. James Taylor: “All the muscles of the affected side, including the facial muscles, react to the interrupted current, but the current required to produce the reaction is greater than that required for the muscles of the (left) unaffected side. This difference in reaction is most marked in the small muscles of the hand. To the continuous current, similarly, a greater current is required to produce a reaction, but there is no qualitative change. K.C.C. is always greater than A.C.C.” Over an area, including the front and back of the right upper extremity, the right side of the scalp, face, and neck, and the right side of the trunk to about the level of the tenth dorsal vertebra there exists marked alteration in sensation. The patient cannot distinguish between painful sensations and contact. Thus she cannot tell the difference when the skin is touched with the finger or the sharp points of a pair of compasses. The locality is readily distinguished, but both tests appear as if “a weight” had been placed on the part. Over this region, also, the patient cannot distin-

guish between heat and cold. She feels and localises the point of contact when hot and cold objects are applied, but cannot tell which is the hot or which the cold object. The muscular sense in the arm is retained. At the level of the tenth dorsal vertebra on the right side there is a region about one inch in breadth where the markedly altered sensations shade rapidly into normal sensation. In the middle line the limit of altered sensation is well marked. The sensation of the mucous membrane of the right side of the tongue, mouth, palate, and fauces is affected in a fashion similar to that of the body. A touch can be readily localised, but a painful sensation is felt only as a touch.<sup>1</sup> The sense of smell seems to be less acute on using the right than when using the left nostril, and there seems to be slight diminution of taste on the right side of the tongue, but the results obtained on examining these special senses are not very trustworthy. The senses of sight and hearing

FIG. 1.



Engraving, to show the position assumed by the right hand.  
From photograph. (Mary H—.)

are normal. There is no alteration in the movement of the eye, and the fundus oculi is normal. The lower extremities are normal in all respects, and beyond a slight systolic murmur at the base of the heart no other morbid phenomena are noticeable. (Figs. 2 and 3.)

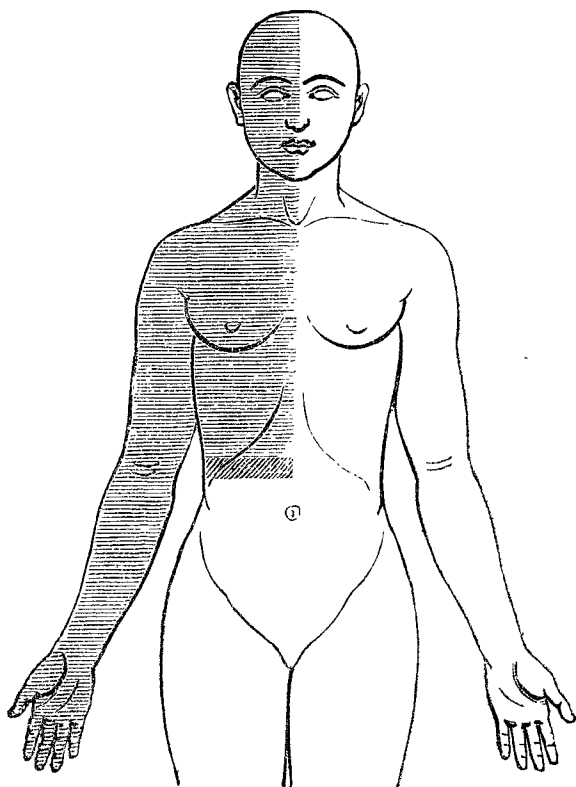
The lesion characteristic of syringomyelus appears to be of congenital origin, and consists essentially of a mass of neuroglia situated in the deeper parts of the posterior fissure of the spinal cord, behind the central canal. The quantity of the abnormal tissue varies greatly in amount in different cases, and at different levels in the same case. This variation is due probably to two causes—to the amount which persists originally after development ceases, and to the increase which this original quantity subsequently undergoes. The cavity from which the disease is named is probably in the first instance nothing more than the early posterior extension of the central canal of the cord, which has failed to become filled up. At the same time, the existence of the embryonic neuroglia in this position probably interferes with the proper development of the posterior columns of the cord. The case now recorded emphasises the fact that the condition mentioned may exist for long in the cord, simply as a deformity, without causing evident symptoms. As has been noted, the patient refers to a period at least twenty-two years ago as the date of commencement of her present symptoms. During the twenty-five years of her life preceding that period she had suffered from no sign of the disease. In a case recently described by one of us (Dr. J. Galloway), typical lesions of the disease were found in a patient aged forty-three, who had been in robust health till two years before death, which occurred from the exhaustion following acute mania, and only a few weeks before

<sup>1</sup> To this striking “abolition of sensibility to pain and to temperature, with preservation of sensibility to contact and to the muscular sense,” Professor Charcot proposes to apply the term “dissociation syringomyélique.” Bruhl: Contribution à l'Étude de la Syringomyélie. Paris, 1889, p. 14.

death were any symptoms noted pointing to a lesion of the spinal cord.<sup>2</sup> (Figs. 4 and 5.)

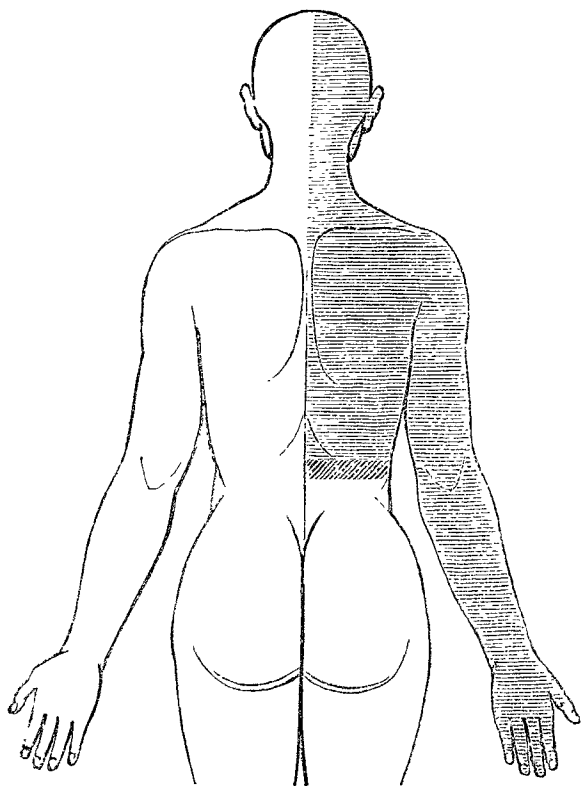
It is important to observe that the early signs, before marked degenerative changes in the cord supervene, consist of the loss of sensation to pain and of the power of dis-

FIG. 2.



Area of analgesia and thermo-anæsthesia, horizontal lines. Area of transition, oblique lines. (Mary H—.)

FIG. 3

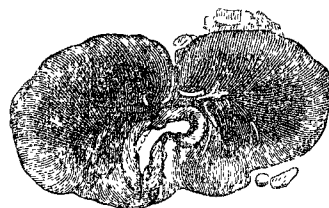


Area of analgesia and thermo-anæsthesia, horizontal lines. Area of transition, oblique lines. (Mary H—.)

tinguishing between heat and cold, while the ordinary contact sensation remains practically intact. This is of interest, as so far as is known at present the conducting tracts for painful sensations, at all events, exist in the lateral columns, while the degenerative changes which result from the increased growth or necrosis of the neuroglia

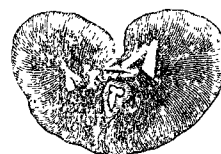
mass are shown most prominently in the posterior columns and in the grey substance of the cord. (Fig. 6.) The alteration in sensation in this case involves the head and neck, the area of distribution of the cutaneous branches of the upper cervical nerves, and of the fifth cranial nerve. This phenomenon is a somewhat rare symptom of the disease, but it is well known that the lesion may continue upwards through the cervical cord, under and involving the floor of the fourth ventricle, and even into the third

FIG. 4.



Section through cervical spinal cord, showing the usual disposition of the neuroglia mass, its relations to the posterior columns of the cord &c., the cavity from which the disease is named. The grey horns are undisturbed. (From the case quoted in the text. Trans. Path. Soc.)

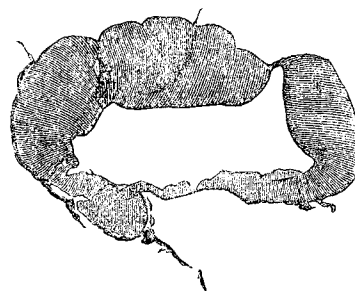
FIG. 5.



Section through the dorsal region of the spinal cord. A small quantity of the abnormal neuroglia is seen surrounding a cavity in the usual position. There is great destruction of the grey matter of the cord. (From the case quoted in the text. Trans. Path. Soc.)

ventricle, associated with dilatation of the lateral ventricles of the brain. A case very similar to the present is recorded by Dr. Bruhl in his recent work on this subject. In the case referred to the diagrams of altered sensation are almost identical with those appended to the case now described.<sup>3</sup> The case of our patient affords also an example of an acute arthritic degeneration occurring during the course of syringomyelus; the condition of the joint is now exactly similar to the well-known arthropathy so often met with in tabes dorsalis. Although

FIG. 6.



Section through the cervical spinal cord. Almost complete destruction of the central regions of the cord may be observed. (From Dr. Turner's case. Trans. Path. Soc., vol. xxxix.)

the patient had an axillary abscess it was probably of infective origin, and had nothing in common with the painless collections of pus especially occurring on the fingers described by Morvan, and now considered to be associated with certain forms of syringomyelus. It is interesting to note also in this connexion that in spite of the fact that the patient has frequently received injury on the right arm, no abscess or "whitlow" has occurred except in the single instance above referred to. The question of the identity of certain forms of syringomyelus and anæ-

<sup>2</sup> Trans. Path. Soc. Lond., 1890-91

<sup>3</sup> Bruhl, loc. cit., pp. 138-143.

thetic leprosy has recently received attention in France.<sup>4</sup> In this particular case the absence of trophic disturbances characteristic of the form of syringomyelus described by Morvan, as well as the fact of the anaesthesia existing in such a well-marked area without any tendency to a macular arrangement, preclude the suggestion of the diagnosis of leprosy in this case, and emphasise the fact that syringomyelus is a much wider disease than the forms of it distinguished by trophic changes, and in this wider category we believe the case under consideration has a place. It may be of interest to mention that a patient presenting many symptoms of syringomyelus was shown at a recent meeting of the Neurological Society by Dr. Ferrier. Of this important case we learn that Dr. Ferrier's diagnosis has been verified by necropsy since he exhibited the patient. A very complete bibliography of the cases reported both in English and foreign literature will be found in the works already quoted by Bruhl and Verchère.

## REMARKS ON THE OPERATION OF EXCISION OF THE BREAST AND ITS AFTER-TREATMENT.

By A. PEARCE GOULD, M.S.,

SENIOR ASSISTANT SURGEON, MIDDLESEX HOSPITAL.

It may be thought that some apology is due for offering to the profession any remarks upon a subject so trite as the operation of excision of the breast. But surgeons recognise the importance of paying attention to small details, and I venture, therefore, to refer to points in the conduct and after-treatment of this operation, attention to which has in my hands been followed by greater comfort and more speedy recovery of the patients. I will not occupy the valuable space of this journal by a new description of the old operation of excision of the mamma, but will at once deal with certain special points.

1. *The Incision.*—Some difference of opinion exists as to the best direction for the elliptical incision which is almost invariably employed. In a clinical lecture published in THE LANCET of May 9th, 1891, Mr. Christopher Heath discusses this matter from the point of view of the more or less perfect drainage of the wound which can be obtained. Another point considered to be of importance is the ease with which the incision can be prolonged into the axilla for the removal of infected glands. I would submit that neither of these considerations need have any weight with the surgeon. There is no wound which is more easily and uniformly treated without resort to any means of drainage than that left after removal of the breast and axillary glands. It is sometimes convenient to prolong the incision into the axilla, but it is never necessary to do so, for it is quite easy to clear out the axilla completely through the wound made for removal of the mamma. Quite recently, I have had to operate upon two cases of scirrhus tumour situated in the upper portion of the mammary gland, and I made my incisions so that the long axis of the ellipse of skin removed was vertical. In both cases it was quite easy to remove the whole of the axillary fat and glands through this incision. This is the most extreme case. Two considerations only should guide the surgeon in planning his incisions—one paramount, the other of secondary importance. The first is the complete removal of the nipple and the skin over the tumour when that is malignant; the second is to have the cicatrix parallel to the fibres of the pectoralis major. In most cases these two objects are best attained by the same incision—one enclosing an ellipse of skin parallel with the anterior fold of the axilla when the arm is at a right angle with the trunk.

2. *The Axillary Glands.*—When the mamma is not the seat of a malignant growth, of course the surgeon will not invade the axilla, and even when the disease is sarcoma, the axillary glands should not be removed unless obviously diseased. During the last year I operated upon two patients with sarcoma of the breast, in whom secondary growths

occurred in the axillary glands. But in cases of carcinoma of the mamma I am strongly of opinion that it is the surgeon's duty, as a matter of routine, to remove all the axillary glands in their packing of fat. When I first made this assertion, in a paper read before the Medical Society of London, March 27th, 1882,<sup>1</sup> I was mainly influenced by theoretical considerations. Since then I have had, and seen, several cases where disease could only be recognised in the axillary glands after their removal, because it existed in foci of the size of a white mustard-seed or peppercorn. I have followed this practice in every case of operation for cancer of the breast since 1880, and have never had cause to regret it. Where the glands are obviously diseased all surgeons are agreed that they should be removed, and difference of opinion only arises in the cases where no enlargement of the glands can be detected. It is assumed that in such cases no glandular disease exists, and it is asserted that the removal of the glands is an unnecessary extension of the operation and an additional danger. But the assumption is not well founded; for it is only when careful examination of the glands after removal has shown them to be free from cancerous infiltration that we can be sure that they are not infected, and then it must be remembered that it is just in these cases that the axillary glands can be removed with practically perfect safety. There is no adhesion to vessels, muscles, or bone to render the operation hazardous. It is useless to refer to statistics in this matter. The cases where in the past the glands have been excised as well as the mamma, of course, show a rather longer convalescence, and even a higher mortality than those where only the breast has been excised, for they include all the severer cases, such as those requiring extensive dissection, and those where the glands are adherent to the axillary vessels or their large branches. But where the glands are not obviously diseased there is no risk of wounding any important vessel or nerve, and their free removal in no way adds to the danger of the operation if the wound is aseptic. It is best to remove the axillary glands and fat in one mass, first separating it from the pectoral muscles, then from the serratus magnus, then from the subscapularis, and lastly from the vessels on the outer side. The fat should be removed quite up to the clavicle, as the chain of glands extends up to that bone. A raspatory is the best instrument to use when anything more than the finger is needed. The intercosto-humeral nerve should be preserved, and this can easily be done in all cases where the glandular infiltration is limited.

3. *Arrest of Hæmorrhage.*—The most convenient plan is to pick up with pressure forceps any spurting arteries as they are cut, and then, when the breast is detached from the pectoral muscle, to carefully search for any smaller bleeding points and treat them in the same way. Then proceed with the clearance of the axilla, and if any artery is divided, seize it also with forceps. Now remove the forceps in the order in which they were put on, taking great care not to open up the compressed ends of the arteries. Occasionally one or more arteries will require to be twisted—a ligature is never necessary. Sponges should be used only to dry the wound, and should never be rubbed over it; the less they are used the better. No bleeding point, however small, should be neglected.

4. *Irrigation.*—The wound should be thoroughly flushed with a solution of bichloride of mercury (1 in 2000), after the hæmorrhage has been arrested. I generally use four or five quarts of the solution, and find it a good plan to flush the wound with it just before fastening the last suture. Care must be taken to express all the fluid, and if this is done there is no fear of corrosive sublimate poisoning. Besides its action as an antiseptic, this solution is a valuable astringent, and greatly diminishes the subsequent serous exudation, and in this respect is far superior to carbolic acid solution.

5. *Suture and Drainage.*—I have obtained the best results with a continuous suture of the finest chromicised catgut introduced at intervals of half an inch, and each loop caught up—the button-hole stitch. A drainage-tube should not be employed.

6. *The Dressing.*—The dressing should fulfil two conditions. It ought to be aseptic, and it should secure exact apposition of the wound surfaces without any movement, until primary adhesion has taken place. The rounded, firm, and yet elastic chest wall is admirably adapted for a surface of

<sup>4</sup> F. Verchère. A review in the Revue des Sciences Médicales, vol. xxxviii., p. 324. See also a translation of the above in "Brain," 1891, p. 368, by Dr. Cagney.

<sup>1</sup> See THE LANCET, vol. i. 1882.