

Surgery.

SARCOMA OF UPPER JAW.—EPITHELIOMA OF UPPER JAW.—CANCER OF BREAST.—CELLULITIS OF FINGER AND HAND FOLLOWING AMPUTATION OF THE FINGER; LYMPHOMA OF THE NECK.

CLINICAL LECTURE DELIVERED AT THE UNIVERSITY HOSPITAL.

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SARCOMA OF UPPER JAW.

I SHALL show you to-day two cases of tumor of the jaw, both of which call for operation. The first patient is an old man who applied to the eye dispensary with the statement that he was suffering from some impairment of vision. The surgeon in charge recognized that there was a tumor involving the upper jaw, and sent him to me. He has quite a large growth involving the upper maxillary bone, pressing the eye upward, but, as far as I can ascertain, the disease has not passed beyond the limits of the jaw. I believe it to be a sarcoma. These cases were formerly considered encephaloid, but modern microscopic methods show that the large majority of cases formerly regarded as encephaloid are really sarcomata. The prognosis in these cases of sarcoma of the upper jaw is always grave. In the first place, operation for the removal of the upper jaw is formidable, and not infrequently attended by death from shock or hemorrhage. In the second place, there is, of course, the possibility and the probability, as in all other cases of sarcoma, that the disease will recur either *in situ* or in some other part,—usually *in situ*, because sarcoma does not tend to become diffused as does carcinoma, though you may have sarcoma transferred by embolism, little portions of the growth being carried by the circulation and forming new starting-points for the disease. What may be considered as a favorable feature in this case is that the growth does not appear to have spread beyond the limits of

the bone. When the disease involves the soft tissues of the cheek and the skin, it is an unfavorable feature, for you cannot remove the entire growth without removing a portion of the skin, and then a fistulous opening remains. If the skin and mucous membrane are removed, there is nothing to underlie the skin so that the wound can be closed by a plastic operation. Then, again, if the tumor spreads backward, involving the palate, it is an unfavorable element, because you are not sure of removing the whole of the growth. The most favorable cases are those in which the growth is limited to the jaw itself.

The operation for excision of the upper jaw may be done in various ways. The plan which I prefer is that suggested by Sir William Fergusson, and is that which makes the smallest external wound, while it affords full exposure of the growth and enables you to deal with it in a satisfactory manner. An incision is first made through the median line of the upper lip, then around the nose to the internal angle of the orbit, and then transversely below the orbit as far as is necessary. This affords a free exposure, dividing but few vessels, and is a smaller incision than any other that gives the same exposure. An additional advantage is that the scar is to a large extent concealed in the natural folds of the parts. The deformity is less apparent than in any other operation, although this is, of course, a minor point. The great risk in this operation is hemorrhage. There is some risk of shock, but the main risk is hemorrhage from branches of the internal maxillary artery. I always like to be provided in these cases with the actual cautery. We have here both the Paquelin cautery and the ordinary hot iron. Usually the internal maxillary artery can be tied, but sometimes this cannot be done readily, and you have to control the bleeding by pressure or by prompt cauterization.

The operation is generally begun by removing the second incisor tooth, but as this patient is already edentulous there will be no occasion for that procedure. It is well to begin by deeply grooving the alveolus with a small saw. Three bone-sections are required: first, from the nostril to the mouth; second, from the nostril to the inner angle of the orbit; and, third, the outer attachment of the bone. In this way I remove the bone with the tumor, and any remaining portions of the growth I dissect out with scissors. We are able here to tie the main branch of the maxillary artery, and we ligate all bleeding points. As it is possible that some small portions of the growth may remain, I shall touch the surface lightly with the cautery, which will cause a superficial slough and is an additional precaution against hemorrhage. Having done this, I wash out the wound with

boracic acid solution and close it with silver-wire sutures, applying an antiseptic dressing. With the exception that the cheek is a little sunken, the deformity is not very great.

EPITHELIOMA OF THE UPPER JAW.

The next patient also has a tumor of the jaw, which appears to be an epithelioma originating in the gum, pretty far back, and spreading to the adjoining surface. Cases of this kind, where the disease originates in the mucous membrane and only secondarily involves the bone, do not require the removal of the entire bone. If you remove the ulcerated surface and the bone connected with it, you get a satisfactory result. The disease is on the right side, and I shall make an incision through the cheek, beginning at the angle of the mouth, in order to have a free exposure of the parts. I map out with the knife the portion of tissue which I shall remove, and with bone forceps cut away all the diseased bone. I then apply a saturated solution of chloride of zinc. This I think better than the actual cautery. The object is to destroy any portions of the growth that are left, or what is sometimes called the halo of malignant disease. There may be a few cells in the surrounding tissue which are not recognized at the operation. If there is a great deal of hemorrhage, it may in these cases be desirable to use the actual cautery instead of the potential cautery.

CANCER OF THE BREAST.

The last case that I will show you to-day is another example of mammary cancer, and I am glad to show it in connection with the other patients whom I have shown you, as it illustrates some different points of the disease. In this case the patient is a young colored woman, and I believe the tumor to be one of the rarer forms of carcinoma, encephaloid or medullary cancer. There is one portion of the breast which evidently contains a large cyst. It is bluish in appearance, and presents somewhat the appearance of what is known as Brodie's serocystic sarcoma, which is a proliferous cyst with intracystic growths, and which often simulates medullary cancer. It is impossible to say positively whether this is a cystic degeneration of an encephaloid carcinoma, or whether it is an example of a rare condition, viz., a non-malignant and a malignant growth existing together in the same breast. This cannot be determined until after the operation, and we may have to wait for a microscopic examination. I believe, however, that this is a carcinoma, on account of the dimpling of the skin and the presence of the other signs, to which I have called attention on

previous occasions, and also on account of the fact that the axillary glands are involved.

The treatment is clear. It is to excise the growth. It will also be necessary to open the axilla and remove the diseased glands. Looking at the tumor, you will notice the dimpled appearance. The cyst is quite evident, and the dimpled appearance of the skin is also present over the cyst, so that I am disposed to think that this is a later change in the malignant disease. I shall remove the breast in the ordinary way by two elliptical incisions, taking care to keep well into the healthy parts and away from the malignant growth. I then control the hemorrhage and remove the masses extending up into the axilla. Having removed all the diseased tissue, I paint the surface with a solution containing fifteen grains of chloride of zinc to the ounce of water, and then introduce a drainage-tube and close the wound with silver sutures, the cavity being thoroughly washed out by syringing through the tube, and an antiseptic dressing being applied.

CELLULITIS OF FINGER AND HAND FOLLOWING AMPUTATION OF THE FINGER.¹

The case that I now bring before you is that of a man who was admitted to the hospital the day before yesterday. He had sustained an injury of the finger, and had had the first phalanx of the second finger of the left hand amputated at another hospital. After the operation he went to his own home, and, as often happens in these cases when the patient is not under careful supervision, complications have arisen which have rendered his condition much more serious than it was at first. The patient applied here with a temperature of 104.4° F., suffering intense pain, and altogether in a very uncomfortable state. The finger was much inflamed and swollen, and there was a tendency to the spread of inflammation up the forearm. There are several inflammatory affections which may occur as wound-complications, which must be distinguished from each other because their treatment somewhat differs, although two or more of them may coexist in the same case. In the first place, there may be diffuse inflammation of the cellular tissue. This is what we have here, the inflammation starting from the injured part and involving to a certain extent the hand, but not going as far as suppuration; this is ordinary cellulitis, which we often have following upon accident or injury where the patient is not properly cared for. Then we may have, in connection with this, inflammation

¹ Delivered at the Pennsylvania Hospital.

affecting not the cellular tissue directly, but the lymphatic vessels, constituting lymphangitis, which is always accompanied by inflammation of the lymphatic glands. In lymphangitis or angeioleucitis there are bright red lines passing from the affected part up the limb, the color being of an almost scarlet hue, and the lines being fine and sometimes constituting a net-work. With this there is also inflammation of the lymphatic glands. Those of you who are near enough can see that there is here a tendency to the formation of red lines on the forearm. Sometimes more than the first set of glands will be involved, and not only those at the elbow but also those in the axilla may be enlarged, the septic substances absorbed from the wound having passed through the first filter, as it were,—for the lymphatic glands serve the purpose of a filter,—and having reached the second.

Then there is another form of inflammation of vessels,—that is, inflammation of the veins, constituting phlebitis. Properly speaking, phlebitis is a condition secondary to thrombosis. When inflammation affects a vein, its first effect is to cause clotting of the blood. The older writers supposed that there was an inflammation of the lining membrane of the vein, which led to pyæmia. Their explanation was that suppurative inflammation affected the lining membrane of the vein, and that the pus formed was carried into the general circulation. As a matter of fact, that does not occur. The first effect of the inflammation is to cause thrombosis or clotting of the blood, which at once cuts off the seat of injury from the general circulation. You may have secondarily what Virchow calls mesophlebitis or periphlebitis. There may also occur embolism from a portion of the clot breaking off, and this may lead to the so-called metastatic or secondary abscess. On the other hand, you may have a large portion of the clot break off, blocking some branch of the pulmonary artery, and perhaps leading to death in this way. You may have ordinary embolism, or you may have capillary embolism causing these infarcts or metastatic deposits. Phlegmasia alba dolens originates in a thrombosis of the large veins connected with the uterine sinuses, and as a result there is plugging of the femoral vein. From this you may have a fragment carried into the general circulation, blocking the pulmonary artery and causing instant death. You may have the same condition of the veins of the upper limbs, what might be called a milk leg in the arm. You may have it in men as well as in women. It is a thrombosis of the large veins due either to traumatism or to the absorption of septic material.

We have still another form of inflammation the result of injury,—that is, neuritis. This is attended with pain and tenderness in the line

of the nerves, but not with redness, unless the inflamed nerve is quite superficial. With care, the diagnosis between inflammation of the lymph-vessels and inflammation of the veins can always be made. Inflammation of the lymphatic vessels presents bright red, almost scarlet, lines passing up the arm, sometimes in the form of a net-work. The redness in phlebitis is of a dusky hue, much deeper than in angeioleucitis. In the latter condition there will be certain points at which there are painful swellings from inflammation of the glands. You do not find this in phlebitis. An inflamed vein feels like a hard cord from the contained clot. There may be at certain points of the inflamed veins parts that are somewhat enlarged, in the position where the valves exist. There is also great tenderness over the inflamed vessels. You do not have much tenderness over the red lines of angeioleucitis. In simple diffuse inflammation of the areolar tissue there is, of course, the general redness of inflammation, without the redness being limited to the course of the vessels. There is a form of cellulitis which is not erysipelatos. Many writers believe that where you have a diffused inflammation of the cellular tissue it is always the result of erysipelas. This is not the case. Often erysipelas does cause this diffused inflammation of the areolar tissue, but you may have it from traumatic causes. I do not believe that in this case there is any erysipelas. It is a simple inflammation which has extended along the planes of cellular tissue, and which has now reached the hand, and may end in the formation of a palmar abscess. On the back of the finger there is a large prominence, which is yellowish on account of the presence of pus, and is pointing. This "pointing" is an interesting process. It is due to the gradual disappearance of the wall over the collection of pus, the result of pressure and a process analogous to interstitial absorption. A part of the wall is probably thrown off inwards, increasing the amount of pus, and the wall gradually becomes thinner until a small opening takes place, or sometimes a small vesicle first forms, which breaks. When you find this "pointing," it is well to make an incision, as you will thus save more skin than if you allow the abscess to break of itself. I find no evidence of pus in the hand. The question as to the opening of felons and palmar abscesses often comes up. As soon as you are sure that pus is present an incision should be made, and by it you may prevent destruction of the sheath of the tendon and sometimes of the bone. On the other hand, it is not desirable to make an incision simply when the finger or hand is inflamed. For even where there is a threatened abscess, the inflammation will sometimes subside under careful treatment without the formation of pus. Such

a case should be watched, and as soon as you are satisfied that pus is present an incision should be made. We shall to-day evacuate the pus in the finger and watch the condition of the hand. For opening felons and palmar abscesses the best instrument is a bistoury. The best way is to introduce the knife directly into the part, and enlarge the opening as you withdraw the instrument. In this way you give the minimum amount of pain, and if the patient draws his hand away it tends rather to facilitate the operation than to defeat it. You should not open a felon directly in the middle line of the finger, as you might thus injure the tendon. Neither should you open it quite on either side, for then you might wound one of the digital arteries. The incision should be made midway between the median line and the lateral aspect of the finger. After opening it is not desirable to squeeze the part: allow the pus to evacuate itself by the natural contraction of the tissues, assisting the removal of the discharge by simple washing. In these cases it is better not to use corrosive sublimate, which causes much pain if it comes in contact with a fresh wound. The poultice will be reapplied. If you think it necessary to make pressure at all, it should be done through wet cotton or moist sponges. In that way little pain is caused. We are now using a poultice made with laudanum, which forms a very soothing dressing.

The patient is taking internally a fever mixture, containing sweet spirit of nitre, morphia, and acetate of ammonium. In simple cellulitis it is not necessary to do anything more. In cases of cellulitis from erysipelas I think it desirable to put the patient on the use of the tincture of chloride of iron, which is very valuable in phlegmonous erysipelas and may be of advantage also in the cutaneous variety. The same remedy is adapted to the treatment of angeioleucitis, which often accompanies cellulitis. In phlebitis, as general treatment, we usually administer quinine. In neuritis, anodynes are probably the most serviceable remedies, both generally and locally, and benefit may also be derived from the use of counter-irritants.

LYMPHOMA OF THE NECK; OPERATION.

The next patient is a young man who presents himself with a large tumor on the right side of the neck, in the posterior triangle. We recognize the tumor as a lymphoma. This term lymphoma is used for all tumors of which the structure resembles that of the lymphatic glands, and which are found either in those glands or in their proximity, or even in places where there is no lymphatic structure. Another name is lymphadenoma, which is frequently employed for the diffuse

form of the affection known as Hodgkin's disease. In this affection the lymphatic enlargements are found in many different parts of the body, and run a malignant course. Where the tumors originate in lymphatic glands there is more hope from interference. Sometimes these enlargements depend upon the presence of tubercle. One argument in favor of removing enlarged glands is that by so doing you may prevent the development of general tuberculosis. It is believed that the glands are centres of infection, and that from them the disease may extend to other parts of the body. The older writers believed that the presence of lymphatic enlargements of the neck was a safeguard against tuberculosis; and I remember the late Dr. George B. Wood lecturing in this hospital and congratulating a patient upon the presence of these enlarged glands in the neck as probably having saved his life. At that time it was not thought proper to operate upon enlarged glands; but, as I have said, the modern view is rather the other way, that they are centres of infection, and should be removed as a prophylactic measure. Very radical operations have been urged. My own feeling is that here, as in dealing with every malady, the surgeon must vary his treatment on consideration of the circumstances of the individual case. If in a young person we find several enlarged glands in the neck, and if we can treat the case satisfactorily without an operation, it is, I think, proper to do so. In many cases where suppuration has occurred, and where the glands do not present a very distinct mass, you will find it almost impossible to remove them satisfactorily. You may remove a certain number, but others will remain. In these cases it may be better to deal with each gland as it enlarges. If suppuration occurs, evacuate the pus and scrape out the gland with the sharp spoon or curette, and repeat this operation as other glands become involved. By doing this you will have a more satisfactory result than by attempting excision, and without the risk of extensive scarring in the neck. I do not, therefore, think that an operation which does not seem to be called for on account of the size or connections of the tumor is justifiable simply on the possibility that twenty or thirty years afterwards the patient may become the subject of tuberculosis. If, however, the growth can be readily removed, and is of such long duration that it probably cannot be satisfactorily treated in any other way, it is proper to operate. In this case you can see a large mass in the posterior cervical triangle and extending under the sterno-cleido-mastoid muscle. I may find it necessary to divide this muscle and afterwards unite it by catgut sutures. I shall begin with an S-shaped incision, and cautiously work down towards the deep attachments of the mass. The external jugular vein comes

in view, and I tie it in two places and divide it between the ligatures. By working under the sterno-mastoid muscle I gradually separate the tumor, tying all vessels that bleed. As you see, the carotid artery and the internal jugular vein are exposed. Having removed the growth, a drainage-tube is introduced, and the wound is closed and dressed in the usual manner.

A CASE OF SUPRA-PUBIC LITHOTOMY.

CLINICAL LECTURE DELIVERED AT THE UNIVERSITY COLLEGE HOSPITAL, LONDON.

BY MR. CHRISTOPHER HEATH,

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GENTLEMEN,—You saw me last Wednesday open a patient's bladder above the pubes and extract a stone, which is here in a box. You will remember I said at the time that the reason I preferred to open the bladder was because I knew that it was a phosphatic stone in an elderly patient with a diseased condition of that viscus, and I thought therefore it would be better to open the bladder and to extract the calculus above the pubes than to attempt to crush the stone and wash the fragments out, which I no doubt could easily have done. When I had opened the bladder I found what I had not expected,—that there were several fragments of an old calculus; and it appears that this patient had been in another hospital a year ago. He was put under ether there, but it is not clear what was done to him. I think there can be no doubt, however, that a lithotrite was passed and a small stone broken up; but it is quite evident that those fragments were never removed, and that they have been in the patient's bladder for the last year or more, and have set up a considerable amount of irritation there, with chronic cystitis, and it was for that reason that he applied to the hospital. He came here with no knowledge that he had a stone in the bladder, but with the ordinary history of old people with chronic cystitis,—viz., that he had very offensive alkaline urine, which he had to pass frequently; and he came in order that he might be submitted to the treatment which had done him good before,—viz., having his bladder washed out. I passed an instrument for him when he first came, and drew off a considerable quantity of highly ammoniacal, offensive urine. That urine was very turbid, contained a large quantity of pus, and those who were with me at the time will remember how exceedingly offensive it was; and so I proceeded to treat the patient in the way in which we