

CHAPTER XIII

TUMOURS OF THE THORAX AND BREAST

ABSCESSSES OF THE THORAX, whether acute or chronic, may be of greatest interest to the diagnostician. The following remarks are of special importance to the beginner, and well worth careful study: In the first place, the question whether an abscess or some other cystic swelling has to be dealt with will arise. This question would be of special importance if the diagnosis lies between an abscess and an aneurism. Such a case is possible, as an abscess in close proximity to the heart may pulsate, and, on the other hand, an aneurism of the thorax may neither pulsate nor produce a bruit. If the tumour pulsates, we must ascertain whether it is compressible, or whether it is not merely raised up during the arterial diastole instead of being increased in volume. If no decision can be reached, and the history gives no aid, an exploratory puncture with the finest needle, although not entirely free from risk, should be undertaken with the precaution of drawing the skin to one side, so as to avoid bleeding when the needle is withdrawn.

Other conditions requiring differentiation are chronic abscesses and mucous bursæ. I saw one case in which fluid had collected beneath the pectoralis major. A chronic abscess always is preceded by some inflam-

matory symptoms, and some part of the bony framework is sensitive, either a rib, the clavicle, or scapula, etc. The cold abscess, further, is painless, and occurs in individuals of lymphatic temperament. An abnormal bursa is more sharply circumscribed and flatter; the period of development is slow, extending over years; the spot is exposed to friction; the bones are painless; the patient is strong and muscular.

The following case is suggestive: A swelling which gives a *tympanitic* percussion note appears after trauma. It may be a hernia of the lung, which is characterized by being reducible. It may, however, be an abscess containing air. In this given case the swelling can not be reduced, but percussion and palpation both give a splashing sensation, which indicates that the contents is composed of both air and fluid. Such abscesses result from the perforation outward of a cavity. At times this condition is seen in psoas abscesses. Before the abscess points at the groin a second pocket may show in the lumbar region. This part of the abscess may lie over the lowest ribs and contain gas, as is sometimes seen in a subserous abscess. The gas reaches the abscess from the intestine by diffusion; or the abscess may have perforated at some distant point and aspirated the air. But all these are very rare conditions.

If the various symptoms favour the diagnosis of abscess, the next question to be solved is, From what layer does the pus take its origin? The abscess may have started in the pleural cavity—a perforating empyema; or in the subpleural space, a peripleuritic abscess; or from a rib or from the sternum, as in osteomyelitis and tuberculosis of these bones. It may also

begin in the connective tissue between or behind the muscles, or in the subcutaneous connective-tissue layer.

To decide the depth of an abscess the following points will be found of service:

An abscess superficial to the layer of muscle is very prominent over its entire surface. The muscle can be felt only by deep palpation, and appears to lie beneath the fluid. Active contraction of the muscle renders the abscess more prominent.

An abscess placed below the layer of muscle is less prominent; skilled palpation detects the muscle bundles, which pass over its surface. The fluid is recognised only by deep pressure. If the muscle is contracted, the abscess is less evident, because the muscle squeezes it flat. At the same time the tension within the abscess is considerably increased.

A striking demonstration of the submuscular site of an abscess may be obtained if the abscess has made its way into the subcutaneous tissue at one or two spots. If the muscle is relaxed, that part of the abscess which has broken through can be pressed back beneath the muscle. If the muscle is now contracted, the reduced portion reappears, and is found very tense.

Abscesses attached to bones naturally possess all the signs belonging to submuscular abscesses, but in addition are firmly *attached*, and in some cases encircled, by a ridge of bone. As abscesses of the connective tissue, however, are rarely situated beneath the muscles, it is safe to say that most submuscular abscesses start from bone; this applies especially to the so-called gravitation abscess. An abscess may be found beneath the pectoralis major, but examination fails to detect a ridge of bone which might show the connection between

the abscess and the underlying bony parts. We then attempt to determine whether or not the abscess is movable on the deeper parts. An immovable abscess usually originates from the bone. But not infrequently the abscess has burrowed down so far from its starting-point (a cavity in a rib or vertebra) that it is now connected with the original focus by a mere fistulous tract. If the pus finally reaches the superficial layers, the abscess may be movable, and yet be derived from bone. Occasionally such cases do occur, but more often the abscess travels along the deeper layers and is immovable, even if its communication with the bone cavity is narrow and long. In most cases origin from some bone can be claimed for the abscesses, but the bone is usually far removed. Therefore the ribs above the abscess, the clavicle, the coracoid process, etc., should be examined for swelling and tenderness. The history will show that pain first appeared at this distant spot. If an abscess starting from the bone has destroyed the muscle which covered it, the usual method of determining the depth of the abscess is no longer applicable. The palpating finger fails to meet with the resistance offered by the muscles, but sinks in deeper, and may detect a bony ridge if present. This sign is of special value in tubercular abscesses, which frequently lack the bony ridge. Collections of pus beneath the clavicle demand careful examination of the sternoclavicular joint for abnormal mobility and crepitus, because the diagnosis is more complete if the destruction of this joint has been demonstrated.

Abscesses which point from within the chest—i. e., empyema and peripleuritic abscess—come under observation when they grow prominent externally. A *peri-*

pleuritic abscess is distinguished from an empyema by the following signs: Only those intercostal spaces are widened which are in the immediate neighbourhood of the fluctuating tumour. The more distant spaces are, if anything, narrowed by the crowding together of the ribs. The tension of the fluid increases during expiration. The dull area has not the line of demarcation so characteristic of pleuritic effusions. These symptoms are made all the more prominent if auscultation and percussion below and above the dull area prove that the lung properly performs its function. Finally, the peripleuritic abscess does not cause displacement of the organs.

The diagnosis of an abscess of the thorax wall is rendered more difficult if situated behind the female mamma. To differentiate a neoplasm of the mamma from an abscess of the ribs becomes doubly difficult under these conditions. The mobility or fixed position of the swelling will be decisive, but this very sign is frequently wrongly interpreted. The tumour may appear movable, owing to faulty examination, and the diagnosis of a neoplasm is made. In order to recognise immobility, carefully palpate the whole circumference of the tumour with the finger-tips. If the mass can not be crowded away from its attachment, and remains immovable, try to establish the independence of the gland and the tumour by keeping the one hand on the base of the swelling, at the same time attempting to move the breast with the other. The only query still to be answered is whether the growth is a neoplasm springing from the ribs or an abscess of similar origin. This will be decided by fluctuation, sensitiveness of the ribs, the history, etc.

An *Actinomycotic focus* derived from the fungus which has entered the lung, produced an adhesive pleurisy, and then penetrated the thorax wall, may offer considerable difficulty in its diagnosis. Its course may be exactly similar to that of a small cold abscess springing from a rib. If the individual is robust, this contradiction will arouse our attention. If the abscess is large, it will show—corresponding to actinomycotic phlegmon in the neck—the signs of hard infiltration about its periphery combined with central fluctuation and noticeable absence of all pain.

ABSCESSES OF THE MAMMA are instructive to the beginner. Velpeau, who had an excellent and experienced eye for detail, distinguished three forms, which we will now consider:

Subcutaneous abscess, situated in front of the gland, projects from the breast like a smaller hemisphere placed upon a larger. It develops rapidly, soon grows soft over its whole surface, and points within a short time. *The breast does not grow hard and tense.*

An *abscess in the substance of the gland* is first noticed as a hard, diffuse nodule within the breast. The skin gradually becomes adherent at some point, and grows redder and redder. The pain is intense, the redness of the skin increases in extent, and fluctuation is more and more readily demonstrated. The whole breast participates in the change of outline, and finally the apex of the swelling corresponds to the point of maximum fluctuation.

A *retromammary abscess* may be suspected by the changes noticed on inspection. The position and shape of the breast are changed. The gland is erect, and does not hang down like that of the opposite side; its

form is more hemispherical. Fluctuation should be sought for *above* the gland. In more subacute cases the following striking demonstration, which aims to show the change in fluctuation, can be attempted. The lower part of the breast is squeezed against the chest-wall, and fluctuation is more apparent at the *upper* margin of the gland. If the upper quadrant is crowded against the thorax, fluctuation is felt at the *lower* margin. Such abscesses are opened above the gland, and not, as usual, at the most dependent portion; for, if the opening is made below, the gland sinks against the chest-wall and the pus can not drain. This may be obviated by introducing a stiff drainage-tube, but opening the abscess above is the more rational treatment. If the abscess is very acute, it may burrow in the cellular tissue as far as the sternum.

TUMOURS OF THE BREAST are of frequent occurrence. They are superficially situated and readily demonstrated, therefore usually chosen in clinical instruction to school the beginner in the diagnosis of tumours.

Indications of *malignancy* are evinced by the fact that malignant tumours infiltrate neighbouring tissues, regardless of their structure, and slowly replace them. A malignant growth of the breast advances toward the skin, backward toward the pectorals, the deeper layers of the thorax wall, the ribs, finally encroaching upon the pleura and lungs. This unlimited growth takes place with great relative rapidity. A cancerous node will reach a certain size—let us say that of an egg—in the course of months; a lipoma would require years to attain similar proportions. Malignant neoplasms, at an early date, infect the neighbouring lymphatic glands

—that is, the glands to which the lymph-currents of the diseased breast flow.

A well-developed cancer of the breast will give the following picture: The tumour is the size of a goose-egg, hard in consistence; parts of its periphery are sharply circumscribed, and other parts merge into the gland tissue. The mass is placed in the outer quadrant of the breast. Part of the tumour, covering about the area of a walnut, has ulcerated. The ulcer shows an excavated base covered with a dirty exudate, and indurated, bright-red, irregularly granulating edges. The skin about the ulcerating area is somewhat thinned, and can no longer be raised into folds. The nipple is broadened and retracted. The tumour is movable in all directions. In the axilla a group of hard, round, movable, and entirely painless glands are felt. The disease has existed one year, the ulceration only a few weeks. In this case malignancy is evident, because the skin has been attacked and has ulcerated, the axillary glands have been infected, and the rate of growth has been rapid.

The above description does not indicate whether the tumour has invaded the structures behind the breast. The ribs have certainly not been reached, for the tumour is movable, but the pectoral muscles may have already been infiltrated and incorporated. This can be shown in the following way: If the pectorals are relaxed, they move with the tumour, and this will consequently seem movable; but if the muscles are passively stretched, the tumour will be less movable. This is especially evident when we attempt to move the growth in the direction of the muscle fibres; much less so if movement is made transversely to the fibres, for the

muscle can never be made tense to such a degree as to prevent all motion in a direction transverse to its long axis.

Let us take for granted that the tumour has infiltrated the pectoral muscle: thus its extension in a second direction has been proved. If the tumour had been examined three months previously, it would have most likely been movable, even with the pectoralis passively stretched, by maximal abduction of the arm. But, at this early date, malignancy would have been shown by the immobility and the thinning of small areas of the skin. At a still earlier period, symptoms of malignancy, such as attachment of the skin and enlarged axillary glands, would probably have been wanting, but retraction of the nipple might have been noted. This last symptom is due to the fact that the tumour involves the ducts of the gland at an early stage. A scirrhus atrophies and contracts in its centre, and thus pulls upon the ducts like a driver upon the reins, with the result that the nipple becomes less prominent.

The contraction which takes place in scirrhous carcinoma changes the position and appearance of the whole gland. The opposite breast hangs flaccid, while the affected one is usually pulled upward. Not infrequently the surface of the gland shows a small depression—the so-called cancerous umbilication—at a point at which the skin has become attached and retracted. Instead of this, the skin may be wrinkled at one or more points, as the result of the attachment of several parts of the skin, with subsequent cicatricial contractions. The position of the organ, the retracted nipple, the depression and wrinkling of the surface (known in English

as "pigskin"), all show the central atrophy of the growth.

Carcinoma of the breast appears in women at about the age of forty years; less commonly in the third decade. In younger individuals carcinoma need not be considered in the differential diagnosis.

At times a chronic *mastitis*, the result of some previous puerperium, may cause considerable difficulty in its differentiation. I have seen surgeons whose experience covered thousands of breast tumours hesitate. In a given case, if the woman has reached the age at which carcinoma is common, if the tumour is not sharply circumscribed, if its resistance is considerable, and no hard, painless glands are present, the uncertainty in diagnosis is great. Suspending the breast with an appropriate bandage, application of a moderate amount of cold and an iodide salve, will do no harm to a possible cancer, and will be of benefit to a mastitis. The behaviour of the nipple is of great importance in these cases. A marked retraction speaks strongly in favour of cancer.

Sarcoma of the breast is of much rarer occurrence than cancer. It shares its rapid rate of growth with cancer, but, unlike this neoplasm, it ulcerates much later. A cancer which is half the size of the breast is, as a rule, ulcerating; a sarcoma which has reached the size of a child's head may still be subcutaneous.

Cystadeno-sarcomata represent the giant tumours of the breast; they may attain enormous proportions. The presence of markedly fluctuating protuberances, mobility upon the deeper parts, and slow rate of growth are observed. In such giant tumours single cysts may rupture; the skin covering others may be injected and

very tense; isolated axillary glands infected, but the tumour remains movable on the muscles. Smaller cysto-sarcomata are diagnosed by the lobulated surface, with scattered areas of fluctuation, mobility, and sharply circumscribed periphery. At a very early stage the sharp circumscription and the lobulated surface serve to distinguish this variety.

In younger women, small, sharply circumscribed, elastic, and extremely movable *adenomata*, often multiple, may be found either at the margin of or in the substance of the mammary gland.

TUBERCULOSIS of the breast is not as rare as was formerly supposed. A superficial, tubercular ulceration of the skin may be seen quite often, but tubercular foci, embedded in the gland, are of much rarer occurrence. Such a node appears irregular and hard at its surface, but nevertheless shows deep fluctuation. At this spot the colour of the skin is a dirty violet. The axillary glands are swollen, not hard, shotty, and small, but enlarged, ovoid, fluctuating, or even suppurating. Other signs of tuberculosis may be present.

A cold abscess, due to a tuberculous rib, situated behind the left breast, may project toward the interior of the thorax as well as toward the surface. As the deeply placed part may lie in close proximity to the heart, a distinct impulse may be communicated to the whole swelling.

CHAPTER XIV

INJURIES OF THE SHOULDER

THAT there still are physicians who are unable to recognise a simple DISLOCATION OF THE SHOULDER is incomprehensible to me. The slightest experience, and the knowledge of the normal position of the head of the humerus, compared to its position when luxated, should suffice to prevent errors.

There are other injuries of the shoulder which may cause some doubt to the beginner, for whose sake the following account is necessary. I have seen more than two hundred dislocations of the shoulder, and in more than half of these I have noticed in what fashion the beginner undertakes to make his diagnosis. I may say that in those cases in which an average student hesitates to make the diagnosis of a dislocation, it is really absent, so plain and so striking are the findings.

A skilled practitioner will at once suspect some severe injury to the shoulder when a patient enters the room with the head inclined to one side and supporting the injured arm with the healthy one. If the patient has stripped to the waist, we glance at the position of the arm and the direction of the long axis of the humerus. In the forward (preglenoid) and the downward (subglenoid) dislocation—these will be the only ones we shall discuss—the arm is abducted, and the long axis