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COURSE OF CLINICAL LECTURES

ON

SURGICAL DISEASES,

DELIVERED AT THE HOSPITAL OF LA CHARITÉ
BY PROFESSOR VELPEAU.

LECTURE VIII.

ON PURULENT ABSORPTION.

I SHALL continue, gentlemen, my series of cases, illustrative of this affection.

CASE III.—*Excision of the second metatarsal bone—purulent infiltration of the foot—jaundice—death on the 10th day—pus in all the veins and in the heart—numerous metastatic abscesses in other organs.*

—HENRICUS, nineteen years of age, about six months back, perceived a slight tumefaction at the root of the second toe of the right foot. The swelling gradually increased, and opened in about eight weeks; the bottom of the abscess was of a grayish colour, and the discharge of pus not very abundant. He was admitted into the hospital on the 4th of May, 1826. The edges of the sore now presented an unhealthy appearance, the skin around being of a livid, red colour. On passing in a probe, it was found that the first phalanx was carious, and the joint involved in the disease. The toe was amputated on the 7th, and an attempt was made to obtain union by the first intention. During the next three days the patient was a little feverish, but presented no serious symptom. On the 12th, the integuments on the dorsum of the foot were slightly inflamed, and the fever persisted. 13th. The patient's state was little altered; the dorsum of the foot very painful and red; on removing the dressings, it was observed that no union had taken place, and that a large collection of matter had formed under the integuments; it was opened, and several spoonfuls of pus discharged. 14th. Same general state; abundant discharge of pus, foetid, and of a grayish colour; the leg now swollen. 15th. The face had assumed a yellowish tinge; several of the metatarsal bones were found to be necrosed, and the integuments were extensively separated. 16th. The jaundice was evident; pulse regular; some perspiration; tongue pale; abdomen free from pain; respiratory sounds pure; a slight redness was remarked on the back of the left hand, with some fluctuation underneath. 17th. The slight traces of inflammation on the part observed yesterday, had disappeared, but the skin was more extensively detached, and more pus had evidently collected; the abscess was opened, and two ounces of extremely foetid pus were discharged; the abscess does not seem to communicate with the joints. The foot now discharged an enormous quantity of the same foetid pus, mixed with blood;

the lower part of the leg was considerably swollen, but not very painful; the patient was delirious during the night; pulse small and irregular; face anxious, respiration frequent. During the day the patient began to sink; the teeth were covered with a dark crust; at six o'clock in the evening the whole body became covered with perspiration; the pulse excessively small and irregular; the respiration embarrassed, and the patient died at half-past seven P.M.

Body examined fifteen hours after death.

Foot. The skin and cellular tissue are completely separated from the bones and tendons, the latter being black, and as it were macerated in the pus. All the bones are denuded. The adipose tissue round the ankle is infiltrated with yellowish serum, but there is no alteration of the bones beyond the scaphoid and cuboid. The plantar artery is lacerated, without presenting any appearance of gangrene, or being red or obliterated. The dorsal veins of the foot are red, and much thickened; they contain a quantity of greyish fluid pus; the saphenous veins are in the same state, as far up as the limits of the cutaneous inflammation; they contain pus up to the femoral vein; the deep-seated veins at the back of the leg are inflamed here and there, at the points corresponding to the inflamed portions of cellular tissue, and contain pus. At the calf and in different parts of the thigh, there are several small abscesses, in which are seen venous radicles, tumified, red, and containing pus. The arteries are either empty, or contain some of the elements of blood mixed with pus.

Arms. On the dorsal surface of the left hand, from the root of the middle and ring fingers, to the upper extremity of the metacarpus, there extends a large abscess, but the surrounding tissues are not, in the least, altered; a great number of smaller abscesses exist from this point as far as the axilla; some under the skin, others between the muscles; the internal bicipital groove is quite full of the same kind of matter. In these different abscesses there are large venous radicles, the walls of which are, here and there, thickened, and between them the veins are healthy, but filled with pus. The same condition of parts exists on the right side, although there had been no abscess here, during life. The condition of the right shoulder joint was particularly worthy of notice; externally there was not the slightest trace of alteration, but, on cutting it open, an ounce and a half of yellow grey fluid pus escaped; the synovial membrane was not injected, even its polished appearance remained intact. Finally, an abscess was discovered above the clavicle, and another behind the upper end of the sternum.

In the *cranium* nothing particular was found.

Thorax.—Cellular adhesions between the whole of the right lung and chest; this lung contains

two or three abscesses. There are fifteen to twenty abscesses near the surface of the left lung, varying from the size of a pea to that of a small egg: the surrounding tissue is perfectly healthy. There are, also, about three ounces of pus in the cavity of the left pleura. Heart small; the right auricle contains a spoonful of pus; in the left auricle the matter is intimately combined with the fibrinous clots; the latter extend as far as the division of the superior cava. All the other vessels in the chest were *completely empty*.

Abdomen.—Peritoneum healthy; mucous membrane of the stomach and intestines normal; the walls of the superior cava are lined with purulent matter. The aorta contains nothing but a small fibrinous clot, in which there are evident traces of pus. All the other organs of the body are healthy.

Remarks.—If we were inclined to attribute the production of so enormous a quantity of purulent matter to simple inflammation of the tissues, our theory would be refuted by the condition of the parts in the immediate vicinity of the matter. In fact we are compelled to reject any such notion when we reflect on the number of abscesses, without the slightest trace of inflammation to account for them; on the manner in which the venous radicles were affected in those abscesses, and on the way in which the passage of pus into the circulation could be traced.

CASE IV.—*Phlebitis after venesection.*

A young woman, twenty years of age, of good constitution, was bled at the sixth month of her pregnancy, on the 11th of January. On the 13th and 14th she complained of some pain running up along the biceps, with tumefaction. 15th. The pain is more severe: the tumefaction extends to the axilla; some fever. 16th. Extreme pain; agitation; tongue red and dry; twenty-five leeches were applied. 18th. The tumefaction extends to the thorax: the wound made by the lancet was enlarged, and a small quantity of pus discharged. On the 19th and 20th the state of the arm was much improved, but some alarming chest symptoms appeared; twenty leeches were applied over the sternum. 21st. Pulse 130, small; extreme thirst; cough; twelve more leeches applied. 23d and 24th. The patient is extremely low; the arm is scarcely swollen. On the 26th signs of labour manifested themselves; tongue, dry and hard; teeth covered with a dark crust; pulse extremely small; patient much agitated. At eleven o'clock, M. Cloquet finding that the cervix uteri dilated very slowly, made an incision into it, of about four lines, and the unfortunate patient, collecting her remaining strength, expelled the foetus. She sank, however, at once, and died in a few hours afterwards.

Post-mortem appearances.

The median basilic vein is almost completely obliterated, and its walls are much thickened; all the veins which communicate with it are filled with pus. There are no abscesses in the cellular tissue or between the muscles. Near the clavicle the walls of the brachial vein are extremely thickened and lined with a thick layer of pus; the same kind of matter, but more intimately blended with the blood, is found in the continuation of the vein to the heart, the right side of which is completely

filled with it. From the point where the subclavian vein passes the scaleni muscles to the heart, there is no mark of inflammation. The other organs were healthy.

In this case, gentlemen, the existence of phlebitis was undeniable, but, you may ask, did the disease depend entirely on the phlebitis? I do not think so. In the first place, because M. Cruveilhier, and the other persons who examined the body, were convinced that no inflammation existed beyond the subclavian vein; because mere inflammation of the vein, confined to the arm, would be a local disease incapable of destroying life so quickly; and, finally, because the symptoms were not of a nature to be attributed to mere inflammation, unless we allow that the latter had extended to the heart and great vessels. In my opinion we must attribute the adynamic symptoms and speedy death, in the present case, to the state of the blood.

CASE V.—*Fracture of the ribs—abscess of the fore-arm—absorption of pus.*

On the 31st of October, a man, twenty-one years of age, was buried under the ruins of an arch, at which he was working as mason; he was taken at once to the hospital. The left fore-arm was much swollen; the radius broken, and the muscles seemed to be disorganized. The chest and abdomen were very painful. Twenty-five leeches were applied to the arm, and twenty-five more to the chest; and he was bled thrice in the space of twenty-four hours. During the 2nd, 3rd, and 4th of November, he continued to improve, and seemed to be out of all danger; but on the 6th and 7th, febrile symptoms set in, and the pain of the chest became more severe. Twenty leeches were applied. On the 8th the patient was again bled; he felt somewhat better on the two next days. 11th. Some delirium, which was extremely violent on the 12th; blisters to the legs; pills containing camphor and nitre. 13th. Considerable prostration; constant delirium and agitation; pulse small; tongue moist. 15th. Much better; no delirium; a large abscess has opened on the fore-arm, and discharges a good deal of pus; skin considerably detached. 17th. The patient appears to be doing very well; still the discharge of pus is abundant. 18th. The patient had a long rigor, without any reaction this evening. 19th. Face of a yellow colour; pulse small and somewhat hard; abundant discharge of grey fluid pus. 20th. Violent fit of trembling, which lasted nearly an hour, but was not followed by fever; the shivering was exactly like that of ague, and continued during the next three days. The patient became gradually apathetic, and the discharge of pus more fluid and fetid; on the 25th; a quantity of very fluid, pale blood escaped from the wound; the rigors continued at irregular intervals, up to the 27th, when they were followed by stupor, and the patient sank on the following day.

Post-mortem appearances.

Cranium.—Some points of the arachnoid opaque; two ounces of clear serum in the ventricles; nervous substance healthy.

Thorax.—Several pounds of fluid, which seems to be a mixture of albumen with pus, are effused into the cavity of the chest; about twenty small abscesses in different parts of the lungs, the sur-

rounding tissue being quite healthy. The right side of the heart contains purulent matter, and also the inferior cava.

Abdomen.—Three abscesses in the liver, like those in the lungs, but the pus more fluid, and of light blue tint; other organs healthy.

Limbs.—The muscles of the fore-arm are reduced to a putrid mass; numerous collections of pus extend from the seat of the fracture, up to the neck.

CASE VI.—*Amputation of the leg—adynamic fever—death on the 11th day—abscesses in the liver—purulent infiltration of the thigh and buttock.*

A soldier, fifty-two years of age, was admitted into hospital on the 3rd of May, 1826, for long-standing disease of the ankle-joint. His leg was amputated on the 7th; on the following day he felt great pain in the wound, but there was slight reaction. 9th. Pulse strong and full; more fever; in the evening copious perspiration. 10th. Stump hot and painful; general state the same; eight ounces of blood were drawn from the arm. 11th, pulse not so strong; tongue rather dry; thirst excessive; occasional perspirations; stump painful. 12th. The dressings were removed; a great quantity of pus escaped from the wound, the edges of which had not united; erysipelas, extending down towards the knee. 15th. Face yellow; pulse small and very unequal; tongue neither dry nor foul; the patient said he experienced no pain, except in the stump, which is still inflamed; the abdomen and chest were examined with the greatest care, but no trace of organic disease could be discovered. 16th. Some delirium during the night, followed by somnolence; discharge of pus much decreased; soft parts flaccid. 17th. Pulse small and very irregular; constant somnolence; tongue dry, but not foul. 18th. Prostration increasing; respiration difficult; death at eight o'clock.

Post-mortem appearances.

The integuments are detached from the stump up to the knee; the muscles look as if they were dissected by the pus; several collections of pus exist along the upper part of the thigh; arteries empty; veins inflamed up to the ham, and filled with pus; the inguinal glands are tumefied, and several of them are beginning to suppurate; all the cellular sheaths of the thigh were filled with pus; the same kind of infiltration was observed in the pelvis, where the veins are also filled with pus, as, likewise were the other veins up to the cava and heart; but here the matter was more or less mixed with the blood.

There are four abscesses, of the size of a small hen-egg, near the convex surface of the liver; the walls of the cysts which enclose the abscesses are of a dark-green colour; the tissue of the organ is everywhere healthy. The other organs of the body do not present any change worthy of note.

CASE VII.—*Injury of the toe—symptoms of purulent absorption—death on the 18th day—some traces of peritonitis—tubercular masses in the lungs and liver.*

—LOUVEL, twenty-seven years of age, of excellent constitution and general health, was admitted into hospital on the 2nd of October, for a cut on the great toe; the first phalanx

adhered by a portion of integument only. The parts were brought together by sticking plaster, and for the first four days the dressings were not changed; on removing them, union had not taken place; some pain, with discharge of pus, was felt on the fifth and sixth days; on the seventh, the inflammation had extended along the foot, which was very painful; there was some fever; copious discharge of pus. 11th. Skin hot and dry; epigastrium painful on pressure; 12th. Severe pain in the right hypochondriac region; respiration difficult; abdomen tense; eyes yellow; mouth and tongue dry; twenty-five leeches to the abdomen. 13th. Some improvement, but the abdomen is more tympanitic; twenty-five leeches again applied; delirium came on during the night. 14th. Tongue very dry in the centre; moist and red at the edges; respiration more difficult; skin hotter and drier; pain of the abdomen more severe. 19th. Constant delirium; all the symptoms are aggravated; forty leeches were applied to the abdomen, but the patient died during the night.

Post-mortem appearances.

Limb.—Suppuration of the joint of the wounded toe; pus infiltrated along the sheaths of the tendons, and in several parts of the foot.

Abdomen.—Some traces of inflammation of the peritoneum, with effusion of purulent matter; internal surface of the alimentary canal quite healthy; the whole of the convex surface of the liver, on the right side is inflamed, and covered with false membrane; in the interior of the organ there are several masses of concrete pus, of different colours and degrees of consistency; one of the abscesses, as large as a hen's egg, adheres to the diaphragm, which, at this point, has also suppurated.

Chest.—The lower part of the right lung, where it lay over the morbid surface of the liver, presents a mass of concrete pus, exactly similar to some of those in the liver; the surrounding tissue is hepatized to the extent of a few lines; the lower part of the left lung is altered in a similar manner; other viscera healthy; head not examined; the blood-vessels contain a small quantity of dark, fluid blood.

Remarks.—In this case, gentlemen, the disease might, at first sight, seem to be a simple inflammation of some of the internal viscera; but if we examine it more closely, we shall find many serious obstacles to the admission of such an idea. How, in fact, are we thus to account for the abscesses in the liver? Why this formation or collection of caseous masses in an acute inflammation? How can we admit that simple inflammation of the liver and lung could have produced so quickly so many abscesses, and the accumulation of so many concrete bodies? Besides, were not the lesions of the internal organs evidently connected with the injury of the toe?

We cannot, in the present case, deny the existence of internal inflammation, for it was evident; but I am of opinion that this inflammation may be accounted for more easily on the principle of absorption of pus, than on any other. Looking at the case in a different point of view, I may observe, that the concrete masses found in the liver and lungs may give us a pretty correct notion of the manner in which tubercles are formed. It is the observation of such cases which has always prevented me from adopting unreservedly the

opinions of Bayle, Laennec, Broussais, &c., and also those of M. Andral; for I believe that there are two species of tubercles, one the product of inflammation, the other quite independent of it.

CASES

FROM THE EARLY NOTE-BOOKS OF THE LATE

SIR ASTLEY COOPER, BART.

EXTRACTED WITH PERMISSION OF B. B. COOPER, ESQ.

No. VII.

COMPOUND FRACTURE OF THE OS HUMERI.

JOHN TAYLOR, aged eleven years, was admitted into Guy's Hospital on the night of Sunday, 28th of October, (A.D. 1808,) at 11 o'clock, with a compound fracture of the left os humeri, and laceration of the integuments, muscles, &c., so that the arm was suspended by a small portion of integuments only. This accident happened at 3 P.M. on that day, in consequence of his arm having been caught in part of the machinery of a water-mill, 15 miles from town. He disentangled his arm from the mill, and crawled to the yard, not many paces from it. A very profuse hæmorrhage began, and continued for half an hour, when a surgeon applied a tourniquet within about three inches of the shoulder, (the arm being separated near that part,) which immediately stopped the bleeding. He arrived at the hospital at 11 o'clock at night, and, upon entering one of the wards, became sick and vomited. In about an hour after this, the operation of amputation was performed by myself.

1st day, 2 P.M.—Tongue dry; he is very thirsty; has no inclination for food since the operation. The house medicine was given him this morning, and in three hours after he had a motion. He perspired during the night. He has made water about six times since the operation, (about half a pint at a time). His skin is now dry and extremely hot. He has had a violent headache since the operation, and much pain in the left ear, and he feels sleepy. Pulse 108, hard, but regular.

2nd day.—Appetite good. Has had several stools. Pulse 104. Skin hot. He passed a good night. Cut the plasters, which, from the swollen state of the arm, were too tight. Ordered Goulard wash to the stump.

3rd day.—Tongue dry. He is very thirsty. Has no appetite. Has been twice purged this morning. Discharges his urine, which is rather white and thick, freely, and at frequent intervals. Feels violent pain running over the shoulder and breast, and in the axilla. He slept well. Has frequent tremblings. Skin hot, but not very dry. Pulse 110, hard, but regular. He had four or five stools yesterday.

4th day.—Slept about an hour last night; was very restless. Shivering came on in the night, and lasted for an hour and a half, accompanied with fever. While the shivering lasted, he had pains in all his limbs, and he became sick. These were succeeded by a profuse perspiration, which continued till 7 o'clock this morning. He had violent pain in the stump, and over the breast. During the night a very fetid discharge took place. He had also violent pain in the head, and

about the bottom of the sternum. During the night he experienced cramp of the right wrist and hand. Has had one stool this morning. Appetite good. Pulse 104, hard, but regular.

5th day.—Passed a sleepless and restless night, with a little pain in the stump. The strappings were entirely removed yesterday, and fresh straps applied. Stump looks well; appetite good. No stool since yesterday. Perspired very much in the night. Had violent pain in his head and over his eyes during the night. His breathing had become a little difficult, but this has now left him. A considerable discharge still from the stump. Tongue slightly moist; he is not so thirsty as he was. Skin natural. Pulse 104, regular and soft.

6th day.—Slept all night and during this morning; feels easy, is not very thirsty. Had a little pain in the axilla in the night. The discharge from the wound is profuse, but healthy. Perspired this morning. Has had two purges since yesterday. Tongue moist; skin cool. Pulse 100, regular, but rather strong.

7th day.—Slept well last night, feels sleepy this morning. Discharge from the stump still continues very profuse. Appetite pretty good. Not very thirsty. Has had two stools since yesterday; skin cool; tongue moist and clean. Pulse 100, regular, rather harder than natural.

8th day.—Slept well. Has had no stool since yesterday. Perspired a little this morning; skin cool and moist. Appetite good. Pulse 100, rather hard. Tongue moist.

9th day.—Slept a little last night, and perspired freely. Had a little pain in the stump; he took a few drops of the tinct. opii, after which he was easy. Appetite good. Has had three stools. Discharge from the stump still considerable.

10th day. Slept well, free from pain. Appetite good. Has had one stool this morning. Tongue moist and clean. Pulse 100, regular, but rather strong.

11th day.—Slept well. Has a little jarring pain in the stump occasionally. Appetite very good. Has had two stools; perspired last night. Discharge from the stumpless. Skin natural. Tongue moist. Pulse 90, regular, but still rather hard.

12th day.—Slept well last night, free from pain. Appetite very good. Has had two stools. Feels a little shooting pain sometimes in the stump. The discharge of pus is now become small. Tongue moist. Pulse quick and regular, but a little hard.

13th day.—Slept well last night; appetite very good. Has had two stools. The discharge from the stump has nearly ceased. He has occasionally a twitching pain in the stump. Tongue moist, skin cool. Pulse 104, rather strong, but regular. His strength increases daily.

14th day.—Slept well last night. Free from pain. Very little discharge from the stump. Appetite very good. Has had three stools since yesterday. Skin a little hot, but moist. Tongue moist and clean. Pulse quick, and not very strong.

15th day.—Slept very well last night. Appetite good. Has had three stools. Skin natural. Tongue moist. Pulse a little strong, but regular, about 80. There is scarcely any discharge from the stump, which is nearly healed.

16th day.—Slept well last night. Appetite good. Has had three stools.

17th day.—Slept well. Appetite good. Has