A CASE OF ANTHRAX OR CHARBON, WITH EXTERNAL SYMPTOMS (MALIGNANT PUSTULE): EXCISION: RECOVERY.

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For the following notes of the case I am indebted to Mr. Sydney Beauchamp, Surgical Dresser. For the original drawing from which the chromo-lithograph has been taken, I am indebted to the artistic skill of Miss C. G. Lock, sister of the ward in which the patient was treated.

J. L., aged 42, waterside-labourer, was admitted into St. Bartholomew's Hospital on Monday, April 7th, suffering from "charbon," or woolsorters' disease, with external symptoms, or so-called "malignant pustule." On March 26th, twelve days before he was admitted to the hospital, the patient, in the course of his work, had been handling two heavy bales of hides from China. The next day, March 27th, he noticed a small hard swelling below and behind the right ear, near the site of an old parotid abscess. This swelling increased rapidly, and in a few days he experienced considerable pain in mastication and difficulty in swallowing. On Friday, April 4th, the swelling was poulticed, and in a few hours a cluster of "vesicles" appeared on it. On Saturday, April 5th, he vomited, and again on the 6th. At this time, indeed, he was feeling very ill; he could not eat because of the pain in masticating and swallowing, and the discomfort was so great as to prevent his sleeping. On Monday, April 7th, in the morning, he was admitted to Darker Ward by Mr. Toller, house-surgeon.

On admission, there was on the right side of the neck, two inches below and two inches behind the lobule of the ear, a large flat "pustule," about the size of a florin, with a very dark centre, apparently formed by a superficial slough, its circumference being formed by a bleb with an irregular circular outline, looking as if several blebs or vesicles had become confluent. Immediately above and behind this sore was a separate bleb, about the size of a large split pea. (See Plate, Fig. 1.) Below the ear was a mass of inflamed lymphatic glands. All the surrounding tissues were cedematous and brawny, so that the fossa below the ear was filled up and the parts projected. The skin surrounding the "pustule" was very cedematous and erythematous. The erythema extended from the posterior border of the sterno-mastoid muscle behind to the anterior border of the masseter muscle in front; above, it reached the level of the temporo-maxillary articulation; below, it extended as far down as the third rib on the right side. The patient felt very sick; his temperature was 101.4°; he experienced much difficulty in swallowing, and was in great pain. The spleen could not be felt.

In the afternoon of the day of admission, he was seen by Mr. Morrant Baker, who, recognising the case to be one of "charbon," decided to excise the "pustule" at once. Chloroform was given, and Mr. Baker made a free incision round the "pustule," at a distance of a quarter of an inch from its margin, and removed it to a depth of half an inch. The tissues at the base were found so infiltrated and adherent, that it was necessary for removing it cleanly to dissect off some fibres of the sterno-mastoid muscle. An incision was also made into the mass of inflamed glands. Pure carbolic acid was applied to both wounds, and they were covered with sanitas oil (1 in 30) dressings. There was a considerable oozing of blood during the operation, and Paquelin's benzine canterly was afterwards used to check it. Six hours after the operation, the temperature had fallen to 99°; the pulse was 100, and regular. The patient seemed quite comfortable.

On April 8th, the morning after the operation, there was much less cedema and erythema of the neck and chest. The wounds looked clean, and the patient felt much more comfortable, suffering no pain. He was ordered an exclusively animal-diet.

During the day, the swelling of the glands and the extensive cedema and erythema decreased markedly. There was no longer any difficulty in swallowing, and the patient's appetite was good. The temperature was normal. He had vomited twice in the night, and slept but little.

On April 9th, he felt fairly well. The cedema and erythema had almost entirely disappeared. The glands were still somewhat swollen. Pulse and temperature were both normal.

April 11th. The glands were still swollen. There was no erythema or cedema. Sulphite of soda, ten grains three times a day, was ordered. On examining the urine and blood, for the first time, bacilli were found in both. April 12th. Bacilli were again found in the blood. The patient was progressing very favourably.

From this time, there was a steady improvement. The temperature never rose above normal. The glands below the ear decreased in size, and the wounds rapidly healed. The meat-diet was continued until

April 16th, and nothing occurred to check further progress towards complete recovery.

A microscopic examination of the excised "pustule" was made by Mr. D'Arcy Power, but no bacilli were found in it.

Mr. John Spear, who investigated the origin of this case on behalf of the Local Government Board, found that the two bales of hides handled by J. L. were imported from China; and that this same consignment had been the means of infecting three other men with "charbon."

In the case of J. L., the period of incubation is very conclusively shown, as, beyond having to unload some hides on February 22nd, he had had no contact with anything capable of infecting him until March 26th.

The chief points of interest belonging to this case will have been found in the accurate record of the facts in Mr. Beauchamp's notes, and in the results of the careful microscopic examinations of the blood and urine undertaken by him from day to day during its progress. From the result of these examinations, it may be regarded as certain that, in this patient, the blood had become generally infected; and the complete and rapid recovery is the more satisfactory.

So far as I can discover, this is the first instance of malignant pustule which has been recorded as occurring at St. Bartholomew's Hospital; I exclude, of course, so-called malignant carbuncle, of which we have had, in the course of years, many examples, and which, although sometimes confounded with charbon, is a totally different affection. The following case, however, of which the notes have been kindly given to me by Mr. Alban Doran, and which occurred in 1873, when he was holding the appointment of house-surgeon at St. Bartholomew's Hospital, may have been one of anthrax. The history at least points to the possibility.

"G. D., aged 52, a builder, tall and well made, came into the surgery of St. Bartholomew's Hospital on June 14th, 1873. His face was very pale, and his tongue thickly furred, the integuments of his neck of a dusky red colour, but not brawny nor indurated, excepting at one point on the nape over the right splenius muscle. The skin of the lower part of the face was flabby, hanging in folds; his wife said it had never looked like that when he was in good health, the integuments of the upper part of the thorax were dusky and flabby without induration as in the neck. He stated that when working at a wharf at Hoxton, on June 11th, he felt a gnat biting the back of his neck, and he struck down the insect. Next day he felt very ill, and the bite was exceedingly tender. His illness increased, so he came to the hospital for relief. He was admitted, and Mr. Doran prescribed for him ammonia and bark, ordering a poultice to be applied to the neck. Two hours later, Mr. Willett visited the patient and ordered, in addition, that the seat of the bite should be painted with tincture of the perchloride of iron. At 10 p.m. the patient was sleeping comfortably, with no sign of dyspnoea. At 8 a.m. on the next morning, June 15th, on attempting to get out of bed, he turned very livid, and died in a few seconds.

"A post mortem examination was made by Mr. Butlin; and the following abstract is taken from the ward-book. 'The back of the neck was the seat of a very large brawny mass, from which infiltration of the subcutaneous tissue extended down the back, around the front of the back, and down the front of the chest. Nothing was discoverable in any of the organs to account for death, which appeared to be due to the carbuncular infiltration and blood-poisoning therefrom.' At the inquest, that was subsequently held, it transpired that hides and timber were being stowed in a warehouse at the wharf where the deceased had been working on June 11th."

The diagnosis of charbon in the present instance was not difficult. The characters of the local disease, which led one instantly to suspect, as a cause, some animal poison, and to cross-examine the patient from this point of view, were quite different from any other; and the voluntary statement of the patient that he had been engaged in carrying hides left little doubt of the nature of the disease.

In the treatment which was adopted, namely, free excision, followed by the application of a caustic, I followed the example of Mr. Davies-Colley, and of the other surgeons of Guy's Hospital, as recorded in the valuable paper by the former in vol. lxxv of the *Medico-Chirurgical Transactions*.

Cases of "charbon" appear to be much more frequently admitted to Guy's Hospital than to any other metropolitan hospital, from its neighbourhood to the large leather-manufactories of Bermondsey; and it appears, from the table of cases given by Mr. Davies-Colley, that the success of the treatment by excision has been most marked. I am aware that all observers are not agreed as to the necessity for such radical treatment; but into this controversy I will not presume, from the experience of a single case, to enter. It may be

fairly said, however, that in this particular case the greatest benefit was apparently derived from the procedure. The temperature fell; the erythema ceased spreading and began to fade; and the patient described himself as feeling altogether a different man within twenty-four hours after the excision of the pustule.

The treatment by an exclusively animal diet is, I believe, usually recommended in cases of "charbon," on account of the fact that the disease is not communicable to the carnivora. The plan seems rational and unobjectionable.

I was induced to select sulphite of soda from the long list of antiseptics, as an internal remedy, by the marked success which has attended the treatment of this disease (splenic fever) in cattle, by this drug, in the hands of Mr. J. B. Gresswell, of Louth.

Figure 2 represents the appearance of the intestine in a case of anthrax without external lesion, observed at Guy's Hospital by Mr. J. Poland, who has kindly placed the drawing, with the following note, at my disposal.

"The patient was a bargeman, Patrick G., aged 30, who had been unloading skins from his barge at a wharf at the river-side. Among these skins were some 'Chinese kippers.' He is said to have been engaged in this work for only one day, and to have complained the same evening of feeling ill; three days before his admission into Guy's Hospital, he complained of pain in the pit of the stomach and in the head; the next day, he had profuse diarrhoea, and in the night he had severe spasms, and became delirious. He was admitted into Guy's Hospital on the fourth day; he was then suffering from convulsive attacks resembling those of tetanus; he became cyanosed and comatose, and died eleven hours after admission. At the necropsy, lesions characteristic of anthrax were found in the stomach, intestines, and lungs; extensive hæmorrhages into the cerebral and spinal meninges were also present; there was no external lesion. The drawing (see Plate, Figure 2) represents one of the anthrax-nodules from the small intestine, very characteristic of the disease."

CASE OF AVULSION OF THE RIGHT ARM AND SCAPULA: RECOVERY.

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THE following case is an example of a very serious injury with a very satisfactory result, and is, in some of its details, probably unique.

Lizzie W., aged 18, mill-worker, was admitted into the Aberdeen Royal Infirmary on Friday, January 5th, 1883, suffering from a severe injury, which she had sustained a few minutes before admission while at work in a flax-spinning manufactory. On examination, it was found that the right arm had been torn off at the shoulder-joint, and that the right scapula had been drawn through the wound at the shoulder, which extended horizontally outwards and backwards from the outer third of the clavicle for a distance of five inches and a half. The wound was somewhat slit-like in appearance, and its edges were even and regular. There was no hæmorrhage; the axillary artery was seen lying on the surface of the wound, pulsating feebly, and presenting an excellent example of efficient torsion. On inserting a hand into the wounded aperture, it was found that the whole scapula, with the exception of one or two very small fragments, had been torn away.

The acromial end of the clavicle projected unduly, and was removed by means of a bone-forceps. The wounded parts were then thoroughly washed with a 1-20 carbolic lotion, and provision was made for efficient drainage by the insertion of a large tube emerging through the skin at a point corresponding to that previously occupied by the inferior angle of the scapula. The edges of the wound were fixed together by means of silver-wire and catgut stitches and a single button-suture, and a salicylic wool-dressing was applied.

The general condition of the patient was one of great collapse. She was sensible, but sensation was so blunted that she did not seem to suffer pain while the proceedings just related were taking place. At the conclusion of the dressing, no radial nor temporal pulse could be felt; but, on the subcutaneous injection of twenty minims of sulphuric ether, she revived considerably. At 12 noon, five hours after the accident, the pulse was weak, 106, and the temperature 100.2° Fahr. She passed a fairly comfortable day, and took and retained a little beef-essence and some stimulant.

January 6th, 9 A.M. She had a restless night, but slept towards morning. She complained much of thirst. Pulse 106; temperature 102° Fahr. The wound was dressed at 12 o'clock. There was a considerable amount of bloody discharge, with a slight odour. The wound was dusted with iodoform powder, and the salicylic wool-dressing was applied as before. Pulse 102; temperature 103.2°. At 9 P.M., temperature 102°. She had taken nourishment freely to-day.

January 7th. She had passed a quiet night, and slept very well. Pulse, 105; temperature 101°. The wound was dressed, and there was less discharge.

January 8th. She had a very good night. Pulse 99; temperature 100.2°. The dressing was removed; the discharge was slight—so much so that the same wool was reapplied. The edges of the wound were sloughing slightly.

January 9th. She had a restless night, and looked pinched and worn out. Pulse 90; temperature 101°. The wound was dressed twice; there was considerable purulent discharge, with a very fetid odour. She took a fair amount of nourishment.

January 10th. She slept well, and felt very much refreshed. Pulse 96; temperature 100.2°. The discharge was rather less than yesterday, but still very putrid. Iodoform ointment was applied.

January 11th. The condition was the same as on the 10th.

January 12th. The patient began to look better; the discharge was less, and there was no smell. The wound was gaping, as the edges had sloughed slightly, but it looked healthy.

January 13th. The pulse and temperature were normal to-day, and the patient looked and felt well.

From this date everything went on satisfactorily, the patient regaining strength rapidly. She was allowed to leave her bed for half an hour on January 23rd, and next day she remained up for two hours.

On January 24th, the wound was covered with healthy granulations, and the gap which had been left on the recession of the edges was now on a level with the surrounding skin. The discharge was slight, and had no purulent taint. This superficial wound speedily cicatrised, and the patient was dismissed from hospital.

The accompanying woodcut, taken from a photograph, gives a faithful representation of the appearances presented by the patient a few weeks after her dismissal from the hospital; and I think that it will be allowed that the removal of this girl's arm and scapula was effected through a smaller wound, and has left less deformity, than in any similar case yet recorded where so formidable an occurrence has resulted from accident, or has been occasioned by operation, for there was but a single wound not six inches long, which is now represented by a mere linear cicatrix, with a little puckering at its anterior extremity.

The account given by those who witnessed the accident, as to the manner in which it occurred, was that the girl had hidden in frolic under a carding-machine, and that her sleeve had been caught by the teeth of a revolving cylinder, by which the arm was drawn in and torn from her body. No part of the arm or scapula could be recovered for examination, as they had been reduced to pulp before the machine could be stopped.