AN ACCOUNT
OF CERTAIN CASES OF
ACUTE DISEASE IN THE THROAT
AND LARYNX,

ONE OF WHICH WAS CURED BY TRACHEOTOMY.

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READ FEBRUARY 27TH, 1844.

By the physician, in his treatment of cynanche, the means, direct and complete, which surgery affords for the relief of his patient, are too often neglected, or, in their application, unduly deferred. Under the routine practice of bleeding, calomel, and tartar emetic, many have perished by suffocation in this complaint, whom tracheotomy would have kept alive.

In November 1830, I attended, with Dr. Nevins and Mr. Keate, a gentleman, Mr. C. B., of middle age, who died of cynanche, supervening on erysipelas of the chin, after a struggle of three days for his breath. Some small warty tumours had been removed from the lower lip, a week before the invasion of the last fatal symptoms; and to this operation the erysipelas had immediately succeeded.

The patient, when I first saw him, by the desire of Mr. Wood, of Bolton-street, on the morning of November 12th, complained of a sense of suffocation, with inability to swallow. His face was of a dull leaden hue—its expression one of extreme anxiety. He was unable to protrude the tongue, which was covered with a white fur, and a large quantity of thick viscid saliva was continually flowing from his mouth. The skin was warm—the pulse oppressed, and not exceeding 80 beats in the minute. There was pain on pressure of the larynx.

He told me, with difficulty, and in a low whisper, that he could “neither eat, drink, or sleep.” He was continually moving about the house, with excessive restlessness of manner. On the evening of the same day, having been freely bled, he was somewhat relieved. The pulse had risen to 90 beats in the minute—the skin was warm and moist—the face had become fuller, and he had slept for nearly twenty minutes; but he was still unable to swallow, though he could open his mouth more widely than in the morning.

He was now harrassed by violent cough, with a frequent rejection of thick mucus. On the morning of November 13th, his breathing was less difficult, yet still very laborious. The countenance was improved. He had swallowed a small quantity of liquid, and had slept for nearly three hours. He was, however, quite unable to articulate, and, on

being questioned as to his feelings, wrote down the words, "*Gutta cavat lapidem.*" Later in the day, his breathing had again become exceedingly laborious. The anxiety of countenance had returned—his eye was glassy, yet wild in its expression—his manner very much agitated. The pulse, now hurried, had been irregular. The skin was over moist. At nine on the following morning, November 14th, he died, apparently by suffocation.

On an examination of the body, two days after death, the epiglottis and posterior membrane of the tongue were found to be highly vascular and thickened—the fauces and pharynx presented, everywhere, a dull ashen appearance. Their investing mucous membrane was soft and quaggy, by the infiltration of a dirty yellow pus in the subjacent cellular tissue. In the immediate neighbourhood of the glottis, the mucous membrane was quite disorganised, and beginning to separate by slough. There was no communication between this deposit of matter, and the erysipelatous inflammation of the chin. The larynx beneath the chordæ vocales, and the trachea in its entire length, were free from all thickening, undue vascularity, or other evidence of inflammation.

Just at this time, a woman, Sarah Jones, died in St. George's Hospital, with symptoms of malignant cynanche, in less than twenty-four hours from the date of her admission. She was brought to the hospital late in the afternoon, after the conclusion

of my visit, and was dead before I entered the wards on the following day.

The pharynx in this case was thickly covered with lymph; the epiglottis was thickened, but in the larynx the inflammation had not extended below the chordæ vocales.

Thus, in both these cases, the diseased action had run its full course, and was interrupted only by death; yet, in neither instance, had the organic lesion extended below the level of the glottis. It terminated exactly *there*—so that, in both cases, an opening between the thyroid and cricoid cartilages would have afforded entire and instant relief. Had laryngotomy or tracheotomy been practised, both patients might now have been alive.

This reflection, to which I was compelled by the anatomy of disease, made a deep impression on my mind, and became of the greatest practical use to me, thirteen years afterwards, in the treatment of a case, which I now venture to lay before the Society.

Mr. W. C., aged 27, of full habit, and fair florid complexion, complained of slight sore throat, and was observed to be unusually drowsy, on the evening of July 7th, 1843. He afterwards attended a crowded assembly, where he remained until half-past four in the morning; and then walked home to his residence in the neighbourhood. During the night he had danced much, and perspired freely. At supper, having felt but little previous inconvenience, he found some difficulty in swallowing a

glass of champagne, which "seemed to cut his throat as it passed." On endeavouring to sleep, he was unable to close his eyes, from general uneasiness of the fauces, with a painful sense of choking on every attempt at deglutition. At ten, a.m., of July 8, he was visited by Mr. Tupper, under whose directions a large number of leeches were applied to the throat. Calomel was likewise given, and other active measures pursued. At two, p.m., the breathing was not relieved—the cheeks were suffused with a purple flush, and the voice had become, for the first time, stridulous—24 oz. of blood were then taken from the arm, which presented the buffy coat, but was very little cupped, and did not coagulate firmly.

At seven o'clock of the same evening, I was requested by Mr. Tupper to meet him in consultation on the case. The patient was then lying on his back, unable to speak articulately, and breathing with great difficulty. By gesture, he complained of pain across the larynx, which was increased by lateral pressure on the alæ of the thyroid cartilage. The countenance was pale, and there was a remarkable stillness of manner, expressive of a dread of movement. The respiration, much hurried, was harsh in sound to the ear, when laid on the chest. Measures were immediately taken for the operation of tracheotomy; and at nine, p.m., Mr. Keate was summoned for the purpose. The patient was at this time bathed in perspiration, and expressed by gesture that his breathing was no better. There

had been a large and very offensive action from the bowels ; and, on leaving the bed for this purpose, he was much distressed by spasm of the chest.

He seemed, moreover, to be fast lapsing into a state of coma. By an incision, of which the patient seemed scarcely sensible, through the integuments of the lower neck, the trachea was exposed beneath the thyroid gland, and there divided, vertically, to the extent of about one-third of an inch. Through the orifice thus obtained, the cannula was immediately introduced. Some venous blood still continued to flow from the edges of the outer wound. On the first rush of air into the trachea, the patient appeared to feel instant relief, and his countenance began at once to assume its natural expression ; but from this time not two minutes could have elapsed, when he was suddenly attacked by most violent spasms of his whole frame, with a struggle for breath, as if threatening immediate suffocation. All consciousness directly ceased, the eyelids closed, the face was livid, the features were distorted, the blood, still bubbling from the wound, became suddenly black as ink. The breath was drawn convulsively, and at long intervals. All movement, excepting that of the pulse, had ceased, and the patient appeared, literally, at his last gasp. During this awful crisis of the young man's fate, which lasted for perhaps a minute, (seemingly for a much longer time,) his head was held forcibly back,—the cannula was withdrawn,—and the orifice in the trachea cleared from blood, and kept widely open. The breathing

at length became more natural; the face, no longer ghastly, began to resume the character and tint of life. Not long after this most fearful convulsion, a large quantity of mucus, mixed in part with blood, was rejected, in long viscid ropes, from the mouth; and it was then found that the patient again breathed through the larynx. Upon this, the cannula was finally withdrawn. A profuse perspiration now burst forth from the face, neck, and chest of the patient, who gradually recovered his consciousness, and expressed by writing that his "breathing was quite easy." He slept at intervals during the night, and was convalescent from this time. Early in the following day, the voice was in some measure recovered, by a low stridulous whisper. The power of swallowing did not return till some hours later, and then only by slow degrees. It will be remembered, that, on the invasion of the disease, the patient retained his vocal intonation for ten or twelve hours after he had ceased to swallow. The fluids first taken by the mouth re-appeared, on more than one occasion, with bubbles of air, through the orifice in the trachea. On July 15th, seven days after the operation, the wound, which had suppurated freely, was closed by granulations.

Nothing is more worthy of remark in this case, than the immediate suspension of all diseased action, in the throat and larynx, consequent on the admission of air into the trachea, through the wound made for that purpose. The strain having been thus removed from the inflamed structures, they

soon recovered their healthy faculty of nutrition. To the system at large, every draught of fresh air became at once specific, and the process of cure was complete.

For the operation in this disease, practically, it is never too late; but the chance of its success is greatly lessened by a delay, under which the patient, poisoned by his own blood, loses consciousness, and becomes convulsed. Like the ligature of a bleeding artery, tracheotomy is ruled, without consultation, in all cases where danger is imminent, and, within a range of seconds or minutes, might sometimes be justified even after *apparent* death.

For the future, in undertaking, as a physician, the responsibility of directing this operation, I should be urgent in all cases, where delay was possible, for a sufficient interval of time, after the division of the integuments, in which to staunch the flow of blood, previously to the final breach of the trachea. The instrument generally to be preferred for this purpose is the trochar, which closes the wound it makes, curved downwards, and sheathed in the canula, through which it is afterwards withdrawn.

This method of performing the operation has been fully described by Dr. John Wilson of the Middlesex Hospital, in a paper of very high interest, entitled, "Cases of Laryngitis relieved by Operation," and published in vol. xxv. of the Transactions of this Society.

Since I made this communication to the Society, I have been summoned by Mr. Frogley, of Hounslow, to a case of laryngitis, in which, through the skill and readiness of that gentleman, the life of the patient was saved by the operation of tracheotomy. Miss L. D., a young lady above twenty years of age, fair, and of delicate habit, having suffered for some days from an attack of "influenza," complained on February 1st of general feverish indisposition, and "sore throat."

On February 4th, these symptoms, which in the first instance had been much relieved by medical treatment, returned with great increase of severity. Calomel and antimony were then given, at short intervals of time, and leeches were freely applied to the throat, but without any evident advantage; and on the following day I was requested by Mr. Frogley to consult with him in the case. When I first saw the young lady at nine o'clock in the evening, she was lying low in bed, on her back, and breathing with but little apparent difficulty. The countenance was pale,—its expression somewhat anxious. The pulse was small and rapid. There was an occasional interruption, by "catching" of the breath. She swallowed without pain, but with caution. When questioned, she complained of pain across the upper throat, which extended as low as the cricoid cartilage, and was much increased by pressure, especially on the right side. Within the throat, a dark blush, as if from venous congestion, extended over the mucous membrane of the pharynx and

fauces, to the anterior edge of the soft palate, but there was neither swelling nor ulceration in any of these structures. Two grains of calomel, with three of the "grey powder," were now ordered to be taken every two hours, and arrangements were made for the operation of tracheotomy, should it become necessary. The patient, whose manner was remarkably calm, from a true fortitude of spirit, passed the night with tolerable ease; and when Mr. Frogley left her, late on the following evening, was considered in some respects better. He was however called to her in haste, at 2 o'clock in the morning of February 7th, in consequence of a sudden attack of stridulous breathing. The pulse, which, some hours before, had been weak, fluttering, and exceedingly rapid, was now scarcely perceptible. The countenance was ghastly, the eyes were closed, and the symptoms, generally, those of a person fast dying from suffocation. Under these circumstances, Mr. Frogley at once proceeded to operate—though with but faint hopes of preserving life. His only assistants were the younger sister of his patient, and a clergyman, her near relative. A small incision having been made through the skin, immediately above the sternum, the subjacent cellular tissue was separated, principally by the blunt edge of the knife; a large prominent vein was in this way pushed aside, and the trachea finally divided, with the loss of not more than ten or twelve drops of blood. Some little difficulty was experienced on the introduction of the cannula, which was in the end effected by

passing a bent probe through it as a director, into the aperture of the wound. Immediately on the first rush of air into the trachea, the patient opened her eyes, and exclaimed, " Oh ! now I can breathe." Her complexion very soon resumed its natural tint, and her voice its proper intonation. She swallowed with ease, and soon fell asleep, breathing tranquilly through the cannula, which was carefully secured by threads, and straps of adhesive plaister. At 4 p.m. of the same day, I found her without complaint, excepting that she had just begun to feel a little pain, from pressure of the tube, during the act of deglutition. Observing that no air now escaped through the cannula, so as to affect the flame of a taper held before its aperture, I directed its removal, and we then enjoyed the great satisfaction of knowing that in the thirteen hours which had elapsed since the operation, the inflamed larynx had effected its own cure. By the vent that relieved its mechanism from pressure, this organ had recovered the means and material of its healthy nutrition.

Under the date of February 21st, exactly a fortnight after the operation, my old friend and pupil, Mr. Emmott, informs me, that Miss L. D. " is going on as well as we can wish ; the wound is all but healed, and she has not a single bad symptom. About 30 hours after the operation, she coughed up some dense membranous looking phlegm, after which she did not breathe through the wound."

In reflecting on the admirable results, whether immediate or secondary, of this operation, it should

not be forgotten that they are determined by a twofold vital necessity ; for, in respiration, a mephitic vapour continually finds its escape by the passage through which the atmospheric draught is compelled to enter.