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TWO FATAL CASES

OF

LARYNGISMUS STRIDULUS.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—I beg to forward to you two cases of laryngismus stridulus for insertion in your valuable periodical,

Your obedient servant,

FREDERICK RYLAND.

Birmingham, July 23, 1842.

CASE I.—William —, residing in an elevated part of Birmingham, had been, from the period of birth, a fine and apparently healthy child; he was suckled entirely for the first three months, and afterwards had the breast three times a day. About the end of December, 1838, at which time he was six months' old, the boy's bowels became habitually costive; to obviate which, besides giving purgatives, many changes were made in his diet, but still costiveness prevailed. His appearance became unhealthy; his flesh soft; he was restless at night; had occasional severe fits of crying; and his thumbs were constantly drawn towards the palms of the hands. The gums were lanced, and calomel and jalap were given to act freely on the bowels, with considerable benefit to the little patient.

During the second week in January, 1839, he was observed occasionally to make a croupy noise in breathing, and this occurrence became more frequent and more remarkable till the 18th, when he had two or three fits of laryngismus, so severe that his respiration was for a time suspended, his eyes fixed, and his countenance quite purple, and minor attacks took place many times in an hour, especially if he was thwarted or vexed in any way. Lancing the gums and calomel again diminished both the force and frequency of the attacks, but in a few days they became as bad as before. It was determined, in consultation with Dr. Evans, on the 23rd, to lance the gums again very freely, to put a blister at the back of the neck, and to give an alkaline mixture with extract of bark. On the 24th he had a fit of laryngismus, accompanied by tetanic rigidity of the muscles of the neck and back, which lasted many minutes, and was ultimately relieved by a warm bath. All the day previous to this seizure, and in a very short time afterwards, the lad was as playful as possible, laughing and crowing quite merrily. For the last few nights he had slept well, and his general health appeared to be improving. I noticed, however, that he was very easily startled; his heart could generally be felt beating quickly; his thumbs were constantly drawn in, and sometimes his fingers became firmly flexed, and the backs of his hands and the tops of his feet swelled greatly. On the 25th he had another fit

No. 96,

of spasmodic rigidity, like that of the preceding day. He was now removed into the country, as a permanent residence for the present, and the change was productive of great improvement to the patient. For many days he had only three or four slight attacks of spasm of the glottis in the course of the day and night, and none affecting any of the other muscles of the body.

In the evening of the 2nd of February, Willie became restless and generally unwell; and on the 3rd, when I saw him, the countenance was anxious, the head hot, and the bowels confined; the hands and feet were also much contracted. I directed purgative medicine, constant sponging of the head with tepid water, and a diminution in the quantity of food. On the 4th he seemed in no respect relieved; he had passed a most disturbed night; the bowels had acted four times, and the motions were apparently healthy; but the languid countenance, the heavy, aching head, and the raised fontanelle, indicated a more than usual implication of the cerebral organisation. The carpal contractions continued, and the laryngeal spasms had returned, but were in no instance so severe as they had been formerly. More purgative medicine was ordered, and the head was bathed with spirit lotion. About half-past ten on the morning of the 5th, I received a hurried entreaty to go and see little Willie directly, as he was in a fit. I went without delay, but he was quite dead when I reached the house. I found, upon inquiry, that he had passed a restless night, that he had in the morning many fits of croupy breathing, and that just as the servant was about to take him a walk, he had a violent seizure of the usual kind, but more frightful, becoming not only purple in the face, but discolored all over the body. He was almost instantly put into a warm bath; cold water was thrown in his face, and all the accustomed remedies were tried, but, in the opinion of an intelligent lady who was present, he had ceased to live within a minute after the commencement of the attack.

An examination was made of the body forty-five hours after death. The veins about the head and neck were distended by dark fluid blood. There was a considerable deposition of serum within the membranes external to the brain, and the convolutions were much separated from each other by this effusion. No milkiness of the arachnoid; the veins of the meninges were distended with blood. The brain itself was quite healthy, and the ventricles contained rather more fluid than ordinary, but not much. In the membrane at the base of the brain, Dr. Evans, who did me the favour to assist me in the examination, discovered four or five semi-transparent bodies of the size of millet seeds, which he thought were tubercles. On opening the chest the thymus appeared large; it was not measured, but its weight was nine drachms

and a half. It was in contact posteriorly with the innominate vein, the trachea, and the pericardium. It was of a pinkish color, and contained much milky fluid. Neither before death nor afterwards could we detect any enlarged glands in the neck. The nervous vagus and the recurrent appeared to be quite normal.

CASE II.—Henry —, brother of the preceding child, was born in September, 1840, and completed the fourteenth month of his life without suffering from spasm of the glottis, or, in fact, from any disease, except a severe diarrhœa, when he was nearly a year old, which reduced him greatly at the time. In the first week of December, 1841, the little patient began to experience occasional fits of laryngismus; their exciting causes were sleep, bodily exertion, mental emotion, attended either by laughing or crying, drinking cold water rapidly, and coughing or sneezing, mental distress producing the most violent attacks. The seizures consisted in an incapability of filling the chest with air, which lasted but for a short time, and was attended, in slight attacks, by a kind of catching at the breath, and, in severe cases, by loud croup-like inspiration, blueness round the mouth, and great terror on the part of the child. His state of health, since the diarrhœa mentioned above, had been excellent; he had the eight incisor teeth, and the two upper bicuspid. There was no appearance of cerebral excitement, no carpo-pedal contractions, no elevation of the fontanelle, which remained rather open. A slight mucous rattle in the trachea was often heard previous to the coming on of the attacks, and if a little mucus was coughed up at once, no spasm ensued. The bowels were in a natural state, except that the motions were light colored. The weather during the month of December was generally foggy and wet, and I repeatedly had occasion to remark that the state of the atmosphere influenced the disease to a surprising degree, for, when the day was bright and dry, the laryngeal spasms were very infrequent, and the contrary when the weather was rainy and damp. The child was kept pretty closely to the house; he had a plentiful milk diet, a grain of calomel every morning, and a warm bath every evening. An emetic of ipecacuanha was sometimes given when the mucous rattle was unusually prevalent, and it had the effect of keeping off the attacks for some hours after it had been administered. The gums over the lower bicuspid were divided from time to time. In the course of a few days he began to take eight grains of carbonate of iron and two grains of rhubarb three times a-day, discontinuing the calomel in the morning.

These remedial measures were productive of considerable benefit; the spasmodic seizures were greatly diminished both in frequency and in severity towards the end of December. The attacks seldom occurred oftener than four times in the twenty-four hours; they were unattended by blueness round the mouth, and amounted, in fact, only to hard breathing, without even temporary suspension of the respiration. One of the bicuspid appeared on the 15th.

In the beginning of January, 1842, the attacks of laryngismus, which had entirely ceased for two or three days, recurred, and were rather severe once or twice a-day; the patient had also that peculiar frown that has been noticed in these cases, and sometimes

contraction of the toes for a short time in one or both feet. His appetite and spirits were good; bowels regular. The fourth bicuspid appeared fully on the 2nd, and for one day the boy seemed quite well, and had no croupy attacks; but on the three subsequent days the seizures, though not numerous, were very severe in character. He continued to take the carbonate of iron and rhubarb, with the addition of half a grain of musk three times a day, and afterwards quinine in grain doses, but none of the medicines seemed to have profited the little patient much. On the 6th he took one-eighth of a drop of croton oil in sugar, which produced one large liquid motion, besides inducing vomiting; the consequence appeared to be the cessation of the attacks, for none occurred all the day, though the weather was excessively wet. The medicine was repeated on several ensuing mornings, but it invariably brought on vomiting, and did not act on the bowels; it was tried in larger doses and in other vehicles, and was at last abandoned, because it was so unmanageable and so uncertain in its effects. However, when the croton oil acted powerfully on the bowels, the laryngeal spasms were greatly controlled, but, under other circumstances, it seemed to be of no service. His nights were more tranquil, and his countenance improved with the use of this medicine, and he desired to be on his feet more than he had latterly done. Castor oil and scammony and calomel were given daily, to induce strong purgative effects, and the tonics were discontinued, and on the 12th he was removed into the country (to Edgbarton). These measures answered so well, that he had only one slight attack between the 10th and the 19th, his appetite and spirits continuing good all the time.

Jan. 20. Yesterday morning Henry was suddenly and without apparent cause seized with a kind of fit, in which he became at first rigid, without any convulsive movements; he had frothing at the mouth, with lividity and bloated countenance; afterwards he became pale and exhausted, the whole time of the fit being two or three minutes. During the remainder of the day he had very many croup-like attacks, accompanied by mucous rattle in the larger air-tubes. He was removed into Birmingham. At six this morning and at noon, attacks similar to that of yesterday took place; they consisted of spasm of the muscles of the larynx, rigidity of the trunk and extremities, carpo-pedal contractions, squinting, and involuntary fecal evacuations, followed by great exhaustion and ultimately by sleep. The little fellow is lively at times, and always intelligent; his appetite is good; skin warm and moist; pulse rather feeble, and about 96; fontanelle always depressed. For the last two days he has suffered from cough, hoarseness, and other signs of cold.

His bowels had acted well every day, his diet had been properly regulated, his teeth had not seemed to trouble him, and I could, therefore, only attribute this severe recurrence and extension of the disease to a cold which he had caught in an unfortunate walk, when, though fine at first, the weather had become foggy and drizzling before his return. He took large doses of valerian powder with oxymel scillæ and ipecacuanha; the gums over the canine teeth were lanced, and a blister was put on the back of the neck. He

went on well till the 25th, having many attacks of laryngismus during each day, but not very severe. During the 25th the boy showed a constant disposition to squint, and the fits of laryngeal spasm were numerous, and sufficiently bad to cause blueness of the face during their continuance and great exhaustion afterwards. Between eleven and twelve at night he had another fit of tetanic rigidity, with suspension of respiration and involuntary evacuations, the proximate cause being vexation. The laryngeal spasms were many and severe during the following day, and in the intervals between them the poor lad had a tendency to squint, and a sardonic smile on the countenance. He was pale and exhausted, the fontanelles much depressed, cough troublesome. At this time I gave him the oxyde of zinc with musk and ipecacuanha three times a day, and at first he seemed to derive benefit from these medicines, but his state was exceedingly variable; sometimes for a day or two he was almost free from croup-like attacks, and then without any appreciable cause they would return severely.

Feb. 6. Henry has had many attacks to-day, and two of them of a most fearful character. One, the slighter of the two, I happened to witness. It commenced like an ordinary fit of laryngismus, but the constriction of the larynx, not complete at first, became more so every instant, till respiration was entirely suspended. The child then presented the most horrible appearance: the eyes were fixed and distorted; the mouth open, and thick saliva running from it; the face became at first flushed, then of a dark blue color, whilst the lips were of the deepest violet; the trunk and limbs were at the same time rigid. Respiration returned gradually, the blueness and turgescence of the face subsided, and sleep fell upon the poor little fellow almost immediately, and he continued asleep for a long time afterwards. The cause of this attack was a change of nurse that was effected against his will.

14. The patient has had no very bad attack since the 6th, but his general health is bad; he sleeps badly at night; sweats profusely on slight exertion; is thirsty; appetite good only at dinner-time; bowels open; his cough is troublesome, and often brings on the croup-like seizures.

20. Henry's attacks are decidedly worse; all the bad ones, of which several occur in the day and night, being attended with rigidity of the body and complete blueness of the face; they come on, moreover, now without any apparent exciting cause. The fontanelle is generally depressed; the head perspires freely; the cough is better; but all the fits of spasm of the glottis are accompanied by the rattle of mucus in the larger bronchial tubes. He is now again in the country, and has been carried out for a short time in the middle of each day when the weather is mild and pleasant. The gums of the canine teeth have been well and frequently lanced, but the teeth have not appeared, nor does the lancing seem to exert any effect upon the number or violence of the attacks.

23. Much the same, except as to the cough, which has, I fear, been increased by going out; there is much mucous rattle, especially after the croup-like seizures; no hoarseness; no increased frequency of respiration; no pain in the chest. The boy's appetite is variable; he becomes evidently weaker.

24. For some time past the patient has frequently

had spasm of the glottis on first attempting to drink any fluid, whether warm or cold; to-day, drinking appears very distasteful to the child, and, indeed, almost impossible. He wished to take some milk and water this morning, and a teaspoonful was put into his mouth repeatedly, but after keeping it there some time he returned it, from an inability to swallow it. The attacks during the past night and day have been more severe than ever. The fontanelle is greatly depressed; the extremities rather cold; the cheeks cool; he is restless, but disposed to sleep.

25. The patient died this morning about six o'clock in a severe attack of spasm of the glottis, brought on, as was supposed, by biting his tongue while eating a biscuit. During the night, however, previous to the fatal attack, he had had two fits, which yielded only to the warm bath. He had been talking and singing a few minutes before he died.

Post-mortem Examination Thirty-two Hours after Death.

The thymus was normal as to size and appearance; certainly it was not large in any direction. The lungs were emphysematous over the greater part of their external surface; internally they were healthy and only slightly congested. There was no fluid in the pleuræ. The veins about the neck were distended with dark fluid blood. The larynx, trachea, and larger bronchi were of a pale red color, from increased vascularity; the mucous membrane of the larynx was thickened as well as vascular. The rima was quite closed, this closure being the effect of muscular action, as it was readily opened by a probe, and remained open afterwards. The trachea and bronchi contained a large quantity of mucus. The glands about the arch of the aorta were enlarged and vascular; there were no glands about the subclavian artery where it is encircled by the right recurrent nerve. The recurrens were of natural size and appearance, and were not attached to, nor pressed upon by, any absorbent glands in any part of their course.

The head was next examined. The veins and sinuses of the membranes of the brain were distended with blood to an extent such as I never saw surpassed; and within the substance of the brain the same distension of the vessels existed. There was no fluid either beneath the membranes or within the ventricles, except at the base of the brain, where the quantity of fluid was perhaps rather more than natural; no milkiness of the arachnoid. The brain, cerebellum, and medulla oblongata were perfectly normal. No diseased appearance, in fact, existed within the cranium except the extreme turgidity of the vessels, which was undoubtedly owing to the last struggle.

REMARKS.

The proximate cause of death in both cases was the same—viz., suffocation from spasmodic closure of the rima glottidis and tetanic rigidity of the muscles concerned in carrying on the respiratory process. The exciting cause of the spasmodic action of the muscles of the larynx appears to have been in Case I. dentition complicated with head affection; the determination of the diseased action to certain muscles being attributable, I presume, to constitutional predisposition. The source of the disease was in the nervous centres; the exciting causes of the paroxysms, where any could

be made out, were, besides dental irritation, thwarting, vexation, or mental disturbance. The *excito-motory* theory, which has been so strongly insisted upon by Dr. Marshall Hall as explanatory of the phenomena of this disease, offers a reason for the peculiar excitability of the muscles of the larynx in the irritation of the dental branches of the fifth pair of nerves; it thus shows the *course* of the diseased action, but leaves us still in the dark as to the cause why a peculiar spasmodic action of the laryngeal muscles should take place in certain cases of dental irritation, whilst in other cases general convulsions, carpo-pedal contractions, or other well-known effects should arise from apparently similar circumstances.

The exciting cause of the spasmodic action of the muscles of the glottis in Case II. appears to have been inflammation of the larynx and bronchial tubes, together with dental irritation. The usual signs of head affection were absent both before and after death; the thymus was perfectly normal in appearance; the recurrent nerve was unimpeded in its action; the stomach and bowels were free from disease, and performed their functions properly. No other commonly accepted cause of the laryngeal spasm remains but bronchitis and dental irritation combined with hereditary predisposition. Lancing the gums was servicable only in the early stages of the complaint, therefore I am disposed to exclude dental irritation from the list of causes in the latter periods of the patient's life, and to ascribe the continuance of the disease to the catarrhal affection only. I need scarcely add, that Dr. M. Hall's theory, whilst it explains in the latter case as in the former the course of the disease, fails in pointing out its cause.

ON
BENZOIC ACID IN URINARY DISORDERS.

By JOHN SMITH SODEN,

Surgeon to the United Hospital, Bath.

[Read at the Annual Meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association.]

As the regulations of the district branch societies require that communications at these meetings should be chiefly of a practical nature, I shall merely call the attention of the members to a remedy that has been lately recommended for the relief of irritable bladder, and state my own experience of the efficacy of benzoic acid in cases of that description.

In the last volume of the *Medico-Chirurgical Transactions*, there is a paper by Mr. Ure on gouty concretions, in which he states that most unequivocal proofs have been afforded him of the efficacy of benzoic acid in correcting and removing certain disordered states of the urine in individuals prone to attacks of gravel. In the "*Provincial Medical and Surgical Journal*," of February 26, 1842, Dr. Walker, of Huddersfield, published an account of the advantage he had witnessed from the use of benzoic acid, combined with balsam of copaiba, in certain affections of the urinary organs. Dr. Walker's statements induced me to adopt his practice, and the first favorable opportunity of testing its efficacy occurred a few days after I had read Dr. Walker's paper, when I was summoned to an elderly gentleman who had long suffered from

irritable bladder and enlarged prostate. Three years ago I saw this patient on account of retention of urine. I was then informed that, for a considerable time, he had had frequent inclination to pass urine, though able to void only a small quantity at each call, and that the urine was generally loaded with mucous secretion. I found enlargement of the prostate, but had no difficulty in passing a catheter; I emptied his bladder, and the urine drawn off contained a considerable quantity of muco-purulent deposit. The catheter was passed daily, and the bladder washed out with warm water; the hip-bath, with rest, and the means ordinarily adopted in such cases, soon mitigated the severity of this attack. The patient acquired the power of introducing the catheter himself, and has used the instrument, I believe, daily ever since that period. I occasionally felt the instrument strike against a calculus, but the state of the prostate, and advanced age of the individual, rendered an operation inadvisable. During the last three years he has taken most of the remedies generally recommended on such occasions, and thinks the *uva ursi* has been most serviceable to him. He had not, for a long time, been under the care of a medical man, but trusted entirely to his own management, till I was sent for in March last in consequence of aggravation of suffering. He showed me the urine he had recently passed and drawn off. It deposited a large quantity of muco-purulent discharge. He complained much of the irritability of the bladder. I injected warm water, and, as on former occasions, he had derived more benefit from the exhibition of *uva ursi* than from any other remedy, I prescribed that medicine, together with the use of the hip-bath, and a suitable regimen; as no material relief ensued at the end of three days, I directed the benzoic acid in the following form:—

Benzoic acid, one drachm;

Balsam of copaiba, half an ounce;

Yolk of egg, enough to form a mixture with seven ounces of camphor mixture. Two tablespoonfuls to be taken thrice a-day.

I never witnessed anything equal to the efficacy of this medicine; the urine became clearer after the first dose, and in two days it was perfectly free from mucous deposit; the irritability of the bladder was lessened, and in four days the patient resumed his self-management. I did not feel the calculus during this attendance. The gentleman left Bath about six weeks after this period. I saw him a few days before his departure; he told me that he was as well as usual, that he continued to use the catheter, but that the urine was quite clear, and that when he observed any tendency to mucous deposit he had recourse to the mixture, and always with success.

The result of this case induced me to give the medicine a trial at the United Hospital, and our intelligent house surgeon, Mr. Morgan, has been kind enough to give me the heads of four cases in which it has been exhibited at that institution.

CASE I.—A man, aged thirty-five, applied for admission as an out-patient, complaining of frequent desire to make water, which has existed for the last month; the urine deposits mucous sediment; the patient has no gonorrhœa, and refers his disorder to being much exposed to cold and wet. On passing a catheter the urethra was found perfectly natural, but