ORIGINAL COMMUNICATIONS.

ON THE PATHOLOGY AND TREATMENT OF LARYNGO-TRACHEAL INFLAMMATION.

By ROBERT TURNER, M.D.

[Continued from page 651.]

THE subjoined record of cases consists, in part, of the details of those referred to in the preceding communication, as illustrative of various points discussed therein. It includes, also, the history of others, believed to possess interest in connexion with the general subject of Laryngo-Tracheal Inflammation, especially as regards the question of surgical treatment in diseases of this class.

CASE I. In October of 1844, a boy, aged 6, whilst leaping up to gain the latch of a door, drew into his windpipe, by the sudden inspiration accompanying this muscular effort, a fragment of an old tobacco-pipe, which he held in his mouth at the time, and which was afterwards found to consist of about an inch and a half of the stalk and a very small part of the bowl. The accompanying sketch will

give a pretty accurate idea of its size and form. Fortunately, its broad end was uppermost when it entered the glottis, and was large enough to prevent the foreign body from slipping entirely within it. During the two hours and a half, or thereabout, which elapsed from the time of the occurrence of this accident till I saw the child, his distress had been extreme; as may, indeed, be readily conceived, when the narrow channel through which air had all this time to pass into the lungs is considered. Repeated convulsive seizures had ensued. On my arrival, a protracted fit was just passing off, and I found the child verging on asphyxia, presenting very much the appearance often witnessed at the termination of a severe paroxysm of whooping cough. On passing the finger into the throat, I at once detected the pipe, with the heel projecting into the anterior part of the pharynx, and overlapped by the epiglottis; and a little further examination enabled me to discover the stem of the pipe, at its junction with the remains of the bowl, tightly embraced by the glottis. Inserting my fingernail under the projecting part, I endeavoured to push it up; but all the force I could employ in this way was insufficient for the accomplishment of my purpose. I distinctly remember having persevered till the point of the nail—somewhat long at the time—was doubled back from the pulp of the finger. My next essay was, however, successful. Passing the point of the left forefinger behind the epiglottis, I guided the blades of a pair of throat forceps to the sides of the foreign body, seized it, and, first ascertaining by examination with the finger that the former was alone included in the grasp of the instrument, with one steady, vigorous pull, I dislodged the intruder. The effort necessary to effect this was very considerable; in fact, nothing short of an absolute conviction that the boy's life depended on its accomplishment, could have so far overborne my dread of the consequences, as to have induced me to employ such a degree of force. A frightful convulsion

succeeded, from which he rallied only to fall into another of equal severity. Tracheotomy now suggested itself as the only resource, and I quitted the apartment for a moment, with the intention of proposing this measure to the relatives of the child. I was, however, almost immediately called back, and had the gratification to find that such an improvement had just occurred in the state of my patient as rendered the contemplated operation unnecessary. My friend Dr. Robertson, of Melbourne, then my pupil, and attending the case with me, reported that a violent fit of coughing had succeeded the convulsive paroxysm, and that a large quantity of mucus had just been expectorated, with immediate and very marked relief to the symptoms. From this time recovery advanced most satisfactorily. The hoarseness, croupy cough, and respiration, which remained, yielded to the application of leeches over the larynx, and the employment of mercury internally; and within a few days the child was well.

CASE II occurred in my practice some years since: the subject of it was a stout, healthy girl, in her seventeenth year. Diphtheritis, prevalent in an epidemic form in this and the two neighbouring counties at the time, was particularly severe in the locality in which she resided—a low-lying, swampy district. Having had occasion to call one day at the house where she was employed as a servant, I was endeavouring to impress upon her mistress—in the girl's hearing, as it chanced—the necessity of prompt application in this disease, describing the characteristics of its early stage, and pointing out that, if then attended to, it was usually of a manageable nature; but that, when allowed to run on until the respiratory organs became affected, the malady proved in many instances beyond the control of treatment. The girl afterwards confessed that, at the time I was offering this advice, she felt herself affected in the way I mentioned, having experienced during that and the preceding day a slight feeling of heat in the throat, and of pain in swallowing. Two children, in different houses in the immediate neighbourhood, had been carried off by the disease that same day—a circumstance calculated, one might have supposed, to enforce my recommendation. But my future patient was under engagement to attend that evening a raffle—the precursor, in accordance with established usage, of a dance; and to make known her state of health beforehand, she well knew was to deprive herself of the anticipated enjoyment. She therefore kept her own counsel, went to the merry-meeting, thinly clad, and in a cold, snowy night, was over-heated and subsequently chilled; and early next night (12th November, 1848) I was called, in great haste, to see her. During the day, I was informed, she was observed to have what was considered an ordinary "cold", attended with some cough and hoarseness; and towards evening the cough had become more severe, and had assumed a croupy character. Having gone, when in this condition, to engage in some out-of-door employment, she almost immediately returned, labouring under great difficulty of breathing, and scarcely able to articulate. By the time I reached the house (distant about six miles from my own residence), her distress had become extreme. I found her supported in bed, with staring eyes, livid countenance, and loud crowing respiration—asphyxia, in short, seemingly impending. Blood-letting, *pleno rivo*, in the erect posture, speedily induced syncope, which was followed by perceptible, but only temporary, mitigation of the dyspnoea; for, as the faintness passed off, the urgency of this symptom became as great as ever. I was desirous of next trying the effect of an emetic; but as I had gone unprovided with this (having been hastily summoned from the bed-side of another patient); as the case did not appear to admit of the delay which must have occurred in procuring one; and as I found, besides, that the struggle for air could not be suspended long enough to allow her to swallow anything, I at once had recourse to tracheotomy—a measure which was eagerly acceded to by my patient. In operating, I had to contend with the disadvantages of a dim light and an *extempore* assistant (the last selected from a group of sympathising neighbours), owing to which the first steps of

the operation were accomplished with some difficulty and delay, and were attended with rather copious hæmorrhage, although no vessel requiring ligature was cut. After a delay of perhaps a quarter of an hour, by which time the bleeding had almost ceased, an incision of the usual extent was made into the trachea, and, no tracheotomy tube being at hand, the edges of the opening were kept apart by means of a pair of spring forceps from my pocket-case. After the ejection through the wound of a large quantity of frothy mucus, the breathing became tranquil, and the expression of the face natural. On subsequently removing the forceps and stopping the orifice, with the view of inducing the expulsion of further accumulation of mucus in the air-passages, I found that, instead of any unusual manifestation of the *besoin de respirer* following this procedure, as I expected, the respiratory acts were performed freely and easily in the natural way. This state of matters I did not judge it requisite to disturb, but allowed the wound to remain closed, watching my patient, however, for the succeeding half dozen hours, and ready to introduce the tube (now brought to me) at any moment, should occasion arise for its employment. No such necessity occurred; and, when I left my patient, her breathing was but little accelerated, and entirely without stridor, her only complaint being of pain of the throat in swallowing, such as she had felt for the two or three previous days. On examining the throat at my next visit, I found no diphtheritic exudation; but the tonsils bore the appearance of having been recently the seat of such—thin, filmy spots, surrounded by preternatural redness, being even then perceptible on both. The after treatment consisted in the administration of mercury, so as rapidly to affect the system, with spare diet, and careful regulation of the temperature of the apartment. Recovery was complete within a fortnight; and the patient (now a wife and mother) has enjoyed perfect health ever since.

My earliest practical acquaintance with diphtherite, except as a sporadic affection never involving the respiratory organs, dates from about March of the year 1846, when it appeared as an epidemic (for the first time within the recollection of observers in these parts), and spread extensively over this, the adjoining counties of Aberdeen, and part of Morayshire; and the return of spring or of autumn has ever since, in this district at least, been marked by a recurrence of the disease in the same form, although, for the last two or three years, its visitation has been less severe than previously, and more confined to such localities as that in which the case just related occurred. An especial liability to the affection has obtained among children, whilst a very large proportion of the adults attacked has consisted of those belonging to the labouring class. In young subjects, under the age of eight or nine, cases of diphtheritic croup have been numerous, and the mortality from them great, the deaths equalling, or even outnumbering, the recoveries, according to my own observation, as well as that of every other practitioner whose experience has been communicated to me.

During its periods of greatest severity, viz., the spring of 1846, and the same season of 1848, it was no unusual occurrence for two and three members of the same family to be affected at one time—a peculiarity by which I was first apprised that I had to deal with a variety of laryngo-tracheal inflammation altogether new to me. Attention being once directed to the point, however, sufficient means of forming the diagnosis in individual cases were not wanting. So much greater was the tendency to albuminous exudation in the air-passages in this than I had ever found it in the other forms of croup, that I can truly affirm I saw more expectorated false membrane within the two periods referred to than in all the rest of my professional life. The case above recorded and another, that of a woman aged 24, form the only examples I have met with of the extension of the disease to the respiratory organs in subjects beyond the age of childhood. Instances of a similar kind, however, occurred in other parts of the country, and one fatal case was reported to me on reliable authority; but, in general, the malady, as it affected the adult, was of a

trivial character, having no other local manifestation than a few patches of membranous deposit on the tonsils and pharynx, disturbing the constitution but slightly, or not at all, and terminating in perfect recovery (often spontaneously) in a few days. The outbreak of the disease, at one and the same time, in different and distant parts of an extensive district, was a circumstance which pointed unequivocally to the atmosphere as one medium of propagation; and evidence, not less conclusive, of its possessing also a contagious property was supplied by various incidents of its after progress; its appearance in several localities, dry, elevated situations, not at first invaded, having been distinctly traceable to intercourse between their inhabitants and those of affected districts. Very great power—amounting, I believe, to little less than an absolute control—over the diphtheritic inflammatory action is possessed by the nitrate of silver, as a topical application in the solid form, or in strong solution. Where the disease was detected in its early stage, and this appliance satisfactorily made to the seat of exudation in the tonsils and pharynx, I cannot call to mind a single instance in which the affection afterwards extended to the organs of respiration.

CASE III. John Mackenzie, aged 64, a mason, was precipitated from a height of about eighteen feet, whilst engaged in his employment, in July of 1852, and was struck on the head in falling by a part of the scaffolding, the giving way of which had occasioned the accident. He sustained in consequence a wound of the scalp, over the occiput, some inches in extent; and this was accompanied by concussion of the brain. Next day, contrary to the advice of his medical attendant, he was conveyed home in a cart, jolted over rough roads a distance of more than thirty miles. On the day following, when I saw him for the first time, symptomatic fever had set in. The pulse was also somewhat irregular, the pupils were sluggish, and he was slightly comatose. This condition was successfully met by active antiphlogistic measures, and the application of cold to the shaven scalp; and in a few weeks he was able to resume his occupation. In September last he again came under my notice, labouring under well marked chronic laryngitis, which I found had been of many months' duration, although he was only induced to seek advice by a paroxysm of dyspnoea which had attacked him shortly before calling to consult me. The respiration had now become constantly stridulous, was attended with cough of the same character, and muco-purulent expectoration; the voice was reduced to a harsh croaking whisper; there was some pain and pitting on pressure over the larynx, the cartilages of which appeared enlarged and immovable; and congestion was perceptible in the lips, cheeks, and conjunctivæ. The general surface was liable to be chilled on slight exposure, and habitual coldness of the extremities was complained of. The pulse was frequent and depressed, and he had fallen off considerably in flesh within the preceding six months. According to his own account, which was corroborated by his friends, some huskiness of the voice was apparent on his recovery from the injury to the head, and this had afterwards steadily increased until it reached the state of complete aphonia which now existed. The stridulous breathing and other symptoms of laryngeal inflammation had presented themselves shortly after he returned to his work, and continued with progressive severity up to the time when he again placed himself under my care. Free local depletion, followed by counter-irritation over the sides of the larynx and trachea, the use of the "swab" every second day, mercurialisation, and subsequently iodism, were the remedial measures employed in this case, and persevered in for upwards of two months, but without producing any lasting impression on the disease.

On the night of the 21st of November last, shortly after having gone to sleep, he was again suddenly seized with dyspnoea; and, although partial relief was obtained for a time by the application of leeches and warm fomentations to the neck, the use of steam inhalations and the nauseating action of tartar emetic, the urgency of this symptom became extreme on the following morning, now amounting

to orthopnea; and no other resources against a fatal termination appeared to remain than the immediate performance of tracheotomy, which operation at once placed my patient in a condition of comparative ease and safety. Since then the state of his general health has undergone a marked improvement. The countenance has regained its natural expression; coldness of the extremities is not now experienced; the surface is no longer liable to be easily chilled; the pulse is of normal volume and frequency; and he sleeps and eats better than he had done for many months before the operation. His progress, as regards the local affection, has, however, been less satisfactory. A continuous discharge from the sides of the neck has until recently been maintained by means of blisters, and mercury has again been employed so as to affect the gums, but without diminishing in any perceptible degree the enlargement of the larynx, or removing the obstruction to the ingress of air by the natural channel. This, in fact, appears now to be completely sealed; every attempt made to inspire, when the canula is withdrawn and the opening in the trachea closed, being fruitless; nor can the smallest sized urethral bougie be passed from the wound upwards through the rima glottidis. The expectoration is not, however, so profuse, and it does not contain so large an admixture of pus. Within the last few weeks, two small abscesses have formed, successively, just above the crico-thyroid space, leaving each a fistulous opening, running obliquely upwards to the extent of about three-quarters of an inch; and, at the bottom of each, the probe comes in contact with a hard loose body, which I take to be a portion of dead cartilage, in process of exfoliation; to promote which, warm oatmeal poultices are applied, all other treatment being suspended.

Amid some etiological obscurity in the history of this case, the following may, I believe, be offered as at least a probable explanation of the nature and order of its morbid sequences:—A lesion by *contre-coup*, at the origin of the pneumo-gastric nerves, resulted from the injury to the head, gradually leading to aphonia; and inflammatory action in the laryngeal mucous membrane was superinduced by subsequent exposure, with its now diminished power of resistance, to the contact of gritty particles.

CASE IV. Ann Edwards, aged 20, has been frequently under my professional care during the last four years. She has the scrofulous diathesis strongly marked, and some members of her family have died of pulmonary consumption.* My first attendance on her, beginning in March of 1849, was required for a deep and rather extensive strumous ulcer of the right leg, situated about its middle, and occupying the space between the tibia and fibula. She stated that, for some months previously, she had been losing appetite, flesh, and strength. Menstruation had occurred at the usual epoch, but had always been scanty, and irregular in its return. Night sweats had set in, and were now of uniform recurrence, and at times profuse. The pulse was small and rapid, and the bowels were inclined to costiveness.

Careful physical examination gave no intimation of the existence of active pulmonary disease. There was no appreciable irregularity of the form or movements of the thorax, but a slight degree of dullness was perceptible on percussion of the left clavicular and infra-clavian regions; the breath and voice sounds were somewhat harsh; and expiration was rather prolonged in the latter situation. The presence of tuberculous deposit, of limited amount, in the apex of the left lung, was therefore probable; but there was no cough or expectoration, nor pain in any part of the chest; and the respiration, although quickened, was not more so than seemed a necessary accompaniment of the accelerated action of the heart, and of so much emaciation and debility. The pulmonary lesion, then, whatever its extent, appeared to be quiescent.

Under the use of cod-liver oil and iodide of iron inter-

nally, with a nutritious diet, and the application of stimulating lotions, cauterization, and strapping to the sore, a gradual cure was accomplished.

About the beginning of autumn, 1850, the girl again applied to me with disease of the right ankle-joint. There was effusion into the cavity of the articulation, as well as considerable enlargement of the tissues around, and inversion of the foot.

The same constitutional treatment was again employed, a small issue was established under the external malleolus, a splint was applied to the inner aspect of the foot, and the limb was bandaged. A tedious recovery from the affection of the joint resulted, but without a corresponding amendment of the general health. For although she was now able to be out of bed a part of the day, and to take short walks, the pulse continued weak and frequent (never less than 120); the appetite was but little improved; and the hectic symptoms, diminished in severity it is true, were still recurring. This unsatisfactory condition remained throughout the greater part of 1851, and merged in decided Phthisis about the beginning of winter of that year. The symptoms then were: short, dry, paroxysmal cough; wandering pains in both sides of the chest, but most complained of in the infra-clavicular and upper scapula regions of the left side; well-pronounced hectic paroxysms; feeble and frequent pulse, ranging from about 130 to 140; and hurried respiration. There was a marked falling off in flesh; two or three periods had passed without the return of the catamenia; and the patient was now confined to bed. The physical signs noted were: stroke-sound dull over and under both clavicles, but dullness more intense and extended at left side: bronchial respiration and bronchophony distinct in the upper part of the chest at both sides, loudest at left infra-clavicular region. Intercurrent bronchitic attacks succeeded, with profuse but difficult expectoration, at which times the cough was often almost incessant, and so violent as frequently to induce vomiting.

The employment of cod-liver oil, with syrup of iodide of iron,—which, contrary to my advice, had been discontinued when the patient regained the use of her limb,—was now resumed and persevered in, except when an attack of bronchitis, of more than usual urgency, required the suspension of these remedies, and the substitution during its continuance of expectorants and sedatives. Naphtha was administered for the irritability of stomach, and with apparent benefit. Steady counter-irritation of the chest was kept up by means of blisters, solution of tartarized antimony, and croton-oil liniment, varied according to circumstances.

For several months the unpromising state of matters just described remained unchanged, when tokens of improvement began at length to appear. The attacks of bronchitis became less frequent and severe,—the general health also undergoing a gradual amelioration. About the end of July following the patient was able to be out of bed during the greater part of the day, and even to take an occasional short airing in mild weather. Her cough was then decidedly less troublesome than it had been since the commencement of her illness; the "stitches" were no longer complained of; the hectic symptoms had left her; the appetite was much improved; there was already a palpable increase of flesh; and the menstrual discharge, which had again appeared, was recurring with considerable regularity. The physical signs were not now of graver import than in 1849, and, in short, an evident arrest of the pulmonary disease had taken place.

In October, November, and December (1852), the girl was again under my care, along with three other members of the family, for fever of a mild typhoid type, which ran its course even more favourably with her than with any of the others. Abeyance of the phthisical symptoms continued,—indeed throughout this illness I very rarely heard her cough. Early in December she was convalescent, and at my last visit (on the 7th) I found her better, in all respects, than I had ever before seen her. Her pulse was little more than 80, and of tolerable strength.

On the 12th of January of last year, I received a hurrie

* Since this report was taken, the disease has shown itself in a brother, and has now (June 1854) reached an advanced stage.

summons to visit her, which my engagements at the time did not permit me to answer. Other aid was procured for her, but on the forenoon of the 15th I was again requested to see her, the messenger stating that she was believed to be dying, but that her friends were desirous to gratify a wish she had expressed for my being called.

January 15th, 1853. On visiting her this afternoon, I found her in a most precarious state, affected with acute laryngitis in an advanced stage. The practitioner who had been applied to on the 13th, not being now in attendance, an imperfect detail of the previous history of the attack was supplied by the relatives of the patient, to the effect that, after unusual exposure to the night air about the 10th or 11th, she had been seized with catarrhal symptoms, with some degree of huskiness of the voice, and short, dry, cough; but that the laryngeal affection had not set in, or had not attracted notice, till the morning of the 13th, when wheezing, respiration, with orthopnea, occurred. In the afternoon, she had been bled from the arm to the extent of from twelve to fifteen ounces, and the upper part of the chest had been blistered, with partial, but very transient relief to the symptoms. Some time after (a laxative she had previously taken not having acted), a draught of infusion of senna had been given, which had shortly after been rejected. The vomiting and subsequent nausea thus induced had procured another slight and temporary remission of the dyspnoea, but afterwards the case had proceeded uninterruptedly, and with progressive severity, up to the time of my visit to-day. The patient's condition was now most distressing. The prolonged stridulous inspirations, so loud as to catch my ear before I entered the house; the small, rapid, and irregular pulse; the livid countenance, with fixed, prominent, eyeballs, dilated nostrils, open mouth, and tumid face and neck, and the cough occurring in paroxysms threatening asphyxia, bore ample testimony to the extremity of her danger, and at once satisfied me that so scanty an access of air to the lungs was incompatible with the continuance of life beyond, at most, a few hours. Bronchotomy had, therefore, I believed, become an indispensable preliminary to all further treatment; although, taking into account the antecedents of the case, as well as its severity and duration, the expedient appeared to be one of but slender promise. It was no sooner proposed than the girl signified her assent with the utmost alacrity. A delay of more than an hour took place in consequence of my having had to send home for my instruments, and even within this brief period the affection underwent an appreciable aggravation. Respiration became alarmingly irregular; the pulse intermitting, and exceedingly depressed and rapid. The face, neck, and chest were now bedewed with cold, clammy perspiration; and sight, hearing, and consciousness were fast failing. Owing to the imperfect light afforded by candles (for the patient's condition did not admit of her removal from her bed into a proper light), the swollen state of the integuments, and the want of a practised assistant (a neighbouring farmer supplying the place of one), the dissection down to the tube was somewhat difficult. The hæmorrhage during its progress was rather free, arising apparently from the general engorgement of the small vessels of the part. A branch of the superior thyroid artery was afterwards cut in denuding the lower part of the cricoid cartilage and beginning of the trachea; but all bleeding soon ceased spontaneously. An incision into the trachea, dividing its two or three upper rings, was now made, and a tube of medium size inserted. After some rather severe fits of coughing, with ejection of bloody mucus in considerable quantity through the tube, the respiration became comparatively free. A bit of gauze was bound over the mouth of the tube, and a temperature of 60° Fahr. was directed to be maintained in the apartment day and night; an opiate was prescribed, and a light farinaceous diet enjoined. At leaving, I had the gratification of seeing my patient easy, tranquil, and even cheerful, the placid expression of her countenance then contrasting very agreeably with the agony depicted in it but two hours before.

January 16th. She had passed a quiet night, having

slept for two hours in the early part of it, and at frequent short intervals since. She complained of pain on the larynx being depressed or moved from side to side, as well as during the act of deglutition, but this, I was informed, had been felt since the commencement of the attack. Since the morning, respiration had been getting more difficult and hurried from the partial obstruction of the tube with mucus, the removal of which gave immediate relief. There had been some mucous expectoration by the natural passage. The pulse was 125; the respirations 42. She had taken some nourishment,—thin arrow-root and gruel,—and had drank copiously of milk and water, thirst having been, and still continuing, rather urgent. She was ordered to have a laxative now, and if this had previously acted, the opiate draught to be repeated at bedtime. Former directions respecting diet and temperature were to be still observed.

January 17th. No decided change since yesterday had occurred, but no ground had been lost. Sparse mucous rhonchus existed in both lungs, and expectoration through the tube and glottis continued. The blistered surface was open, secreting pus, which was directed to be promoted by dressing with unguentum hydrargyri diluted with lard. The pulse and respirations were much the same as yesterday, and she relished food as well. Thirst was still considerable. The bowels had been freely moved. The tube had been removed, cleaned, and replaced. The opiate was ordered to be repeated at bedtime; and beef, or chicken-tea, and two drachms of sherry to be given every third hour.

January 18th. She had passed a good night. Expectoration was free, and the mucous râles were disappearing. The pain in swallowing and on moving the larynx was very much diminished. The pulse was 120; the respirations 40. She had taken more nourishment, having, in addition to the food allowed, partaken with relish of some sowens* and milk, which she asked for. She was directed to continue the opiate at bedtime, and the same diet with wine.

January 19th. She was still improving. Expectoration was easy, and in diminished quantity. The cough was not so frequent or troublesome. The pulse was 108; the respirations 32. There having been no evacuation by the bowels since the 17th, half an ounce of castor oil was directed to be taken. The opiate was repeated.

January 20th. The amendment continued. The pulse was 88; the respirations 30. The castor oil had acted sufficiently. I removed the tube, and applied simple dressing to the wound. She was ordered to have the same diet as before, but to omit the wine, and to have an opiate at bedtime.

January 23rd. Recovery had advanced steadily since last report. The wound was granulating, and she now breathed entirely by the natural channel. The cough and expectoration were almost gone. Pulse 88; respirations 28. The opiate was ordered to be taken at bedtime as before, and, the bowels not having again been moved, she was to take tomorrow morning three pills of colocynth and henbane.

January 25th. She had had a slight return of bronchitis since the previous night, which had quickened somewhat the pulse and respiration. Mucous râles were again heard throughout the lungs. The blister was re-applied to the chest, and ten minims each of ipecacuan and antimonial wine, and tincture of opium, were ordered to be given in a mixture with syrup and water every fourth hour. The diet was restricted to gruel, arrow-root, and bread, with skimmed milk. For the next three days recovery was retarded by this attack; but on the morning of the 28th, I found that the bronchitic affection had passed off, leaving my patient in much the same condition as before its occurrence. Cod-liver oil, in the dose of half an ounce thrice a day, and a more nutritious diet were prescribed, with a grain and a half of sulphate of bebeerine three times a day, a little before meals.

January 31st. Recovery was proceeding favourably.

* Flummery made of the dust of oatmeal remaining among the seeds, steeped and soured.

She had been able to sit up for half an hour daily since my last visit, and to-day she had been out of bed for more than an hour. The pulse was 82; the respirations 26. She now wore a Jeffrey's respirator. The treatment was continued.

Feb. 7th. Convalescence was advancing very satisfactorily. The voice and respiration were natural, and the cough nearly gone. Percussion and auscultation gave almost the same results as in 1850; and she was sensible of an increase of strength. Of late she had been little in bed during the day; and this evening I found her sitting up, dressed, and engaged in the perusal of the ubiquitous *Uncle Tom's Cabin*.

For the succeeding ten months, the use of cod-liver oil, with attention to diet, and careful avoidance of exposure to cold, secured to the patient a measure of health to which she had long been a stranger. During this period I only saw her incidentally, except once or twice for a threatening of bronchitis, which an expectorant mixture and a mild counter-irritant to the chest seemed to avert; but, on the 29th of November last, the laryngitis suddenly recurred, and with fully its former intensity, again setting at naught all my efforts for its removal without the aid of tracheotomy; leeches to the sides of the larynx, followed by blisters; the administration of tartarised antimony, in emetic and afterwards in nauseant doses; repeated "swabbing"; opiates and inhalations of steam, not even affording the smallest temporary relief. I therefore had recourse to the operation on the afternoon of the 30th, my patient displaying the same heroic firmness under the knife as on the former occasion. In its subsequent course, the present has so closely resembled the first attack, that it seems unnecessary to occupy space with the details. An equally successful result has not, however, been obtained. The use of the canula cannot yet be dispensed with, although within the last month the glottis has again become, in some degree, pervious to air; and on withdrawing the tube at my last visit (on the 7th inst.), and stopping the orifice in the trachea, I found that forced respiration could be maintained, with little inconvenience, for more than two minutes. The pulse was then 96, and the respiration (through the canula) 40. The signs of emphysema of portions of both lungs have of late been superadded to the auscultatory phenomena formerly noted. But the general health has undergone a considerable amendment, the patient being now able to be out of bed during the day, and to occupy her time in reading, knitting, and sewing. She eats with relish, and sleeps tolerably well without the aid of an opiate. The cod-liver oil is continued, in half-ounce doses, three times a day.

The great proclivity to laryngeal complication in pulmonary consumption is well known, the researches of Louis having long since established the fact that ulceration of this part of the respiratory apparatus, its usual seat being the junction of the vocal cords, or the cords themselves, occurs once in every four cases.* I am disposed to regard the laryngitis in the preceding case as an unusual manifestation (owing probably to peculiarity of constitution) of the morbid action, in its early stage, from which these lesions result; this forming the *predisposing cause* in both attacks. Its increase, I believe, is denoted by the circumstance that, although the glottidean contraction has a second time been overcome, a structural impediment to the entrance of air by the glottis remains. From a state of complete occlusion, however, this orifice has of late been restored to a slight degree of patency; and, having seen the adventitious deposit in "scrofulous finger", and other localizations of the same diathesis, melt away under the influence of the wonder-working cod-liver oil, I do not despair of yet greater benefit being obtained in the present case from the continued employment of this invaluable agent.

Keith, July 1854.

CASES OF PUERPERAL CONVULSIONS: WITH OBSERVATIONS.

By A. B. STEELE, Esq.

PUERPERAL convulsions may be considered one of the gravest maladies met with in obstetric practice. The frequency of their occurrence, and the rate of mortality, as recorded by authors, are sufficient to render the subject one of interest and anxiety to all who are engaged in midwifery practice. According to the tables of Dr. Fleetwood Churchill, founded upon the reports of thirteen practitioners, convulsions occur once in six hundred and nine cases. Individual experience, however, varies considerably: thus, Dr. Granville, in six hundred and forty labours, met with only one case of convulsions; while Dr. Cusack had six cases in three hundred and ninety-eight labours. The mortality is estimated by Dr. Churchill at about twenty-five per cent.

I propose first to relate a few cases which have occurred in my own practice, and afterwards to make some remarks upon the nature and treatment of this formidable malady; a subject which appears open for discussion, as the most varied and conflicting opinions are found in the writings of obstetric authors.

CASE 1. Mrs. S., aged 21 years, a stout short-necked plethoric subject, of florid countenance, taking but little exercise, and eating heartily, had been subject to fits (said to be epileptic) when a child. In the last month of her first pregnancy, she observed that her feet and hands had lately swollen. For two or three days she complained of drowsiness in the day and restlessness at night; and on the 13th Sept. 1845, about noon, having remained in bed from feeling unwell, she was heard to fall heavily by her attendant, a female in the room below; who, on going upstairs, found her on the floor in a violent convulsive fit. She appeared to have fallen in the act of getting out of bed. About 4 P.M. on the same day, she was visited by my friend Mr. Walker, of Birkenhead, who attended in consequence of my absence when sent for. This was the first occasion on which medical aid was sought, so that no preventive measures had been adopted. Mr. Walker took about sixteen ounces of blood from the arm, and administered castor-oil. On examination *per vaginam*, labour was found not to have commenced.

8 P.M. I saw the patient for the first time. Two fits had occurred since the bleeding, and one took place during my visit. The pulse was 120, full. The bowels had been freely relieved, and much undigested and irritating matter had been evacuated. The tongue had been severely bitten during the fits, which were very violent. In the intervals, stupor and stertorous breathing were present. No labour pains had been noticed. I took about twenty ounces of blood in a full stream, producing a decided effect on the pulse, applied a blister to the nape, gave five grains of calomel, and ordered two-grain doses to be repeated every hour.

Sept. 14th, 1 A.M. I saw her again. Two fits had occurred since my last visit, and one or two slight pains. She was partially conscious. On examination, the os uteri was found to be fully dilated, the membranes entire, and the head presenting. The fits were excessively violent, and appeared to threaten immediate death by asphyxia. During the paroxysms, the countenance was so horribly distorted, that none of the female attendants could be induced to stay at the bedside. Death seemed imminent: I never before or since witnessed such apparent complete strangulation. Finding that free depletion and copious evacuation of the bowels, cold affusion and counter-irritation, produced no impression in lessening the severity of the fits, I determined to try the effect of emptying the uterus of its contents, and at once proceeded to deliver by version, which was easily done. The expulsion of the head was completed by the natural efforts, and was immediately followed by a very severe fit. The child (a female) was quite dead, but evidently recently so. The placenta was thrown off in a few minutes, and the uterus contracted firmly.

* "On Phthisis" (Dr. Cowan's Translation), p. 33.