She expectorated from the mouth a considerable amount of tenacious mucus, with salivary fluid.

The tube was replaced on the 28th; on the following day (29th), breathing was rendered difficult by the collection of stiff mucus in the trachea, but was relieved by promoting its expectoration by pouring a little water through the tube. The ulceration in the throat had assumed a more healthy aspect. She was left in a perfectly satisfactory condition; but at 5 p.m., the resident officers, Dr. Maxwell and Mr. Goodall, were summoned to her in haste, and found a large quantity of blood issuing through the tube. The hæmorrhage was very profuse; violent efforts at coughing were provoked; and, despite every means taken to arrest the hæmorrhage, blood continued to flow, until it was believed that she must have lost a pint-and-a-half in the twenty minutes during which she continued alive. At first, the blood was quite florid, but afterwards it became dark coloured. She died of mixed apnoea and sinking.

The treatment had consisted principally of tonics, with six ounces of wine, and milk; chicken was subsequently added. For three days she took iodide of potassium.

POST MORTEM EXAMINATION forty hours after death. The face was very pale. Mr. Bolton removed the pharynx entire, by dividing the lower jaw. A very extensive ulcer existed in the pharynx, extending over the lateral and posterior aspect, and almost laying bare the cornua of the hyoid bone; the edges were sharp, and it burrowed above and below; some small remains of the right tonsil appeared above the ulcer. The papillæ over the back of the tongue were red, and remarkably prominent. The epiglottis and the aryteno-epiglottidean folds were firm and rigid, and enormously thickened; the folds were especially thickened, and, from the whiteness of their mucous membrane, resembled two large lobes of fat. The mucous membrane covering the epiglottis and the folds was perfectly free from ulceration; and the disease ceased abruptly and entirely at the vocal cords, the latter being perfectly healthy. The mucous membrane of the larynx below the cords was probably quite healthy—at least, no sign of disease was apparent, except a somewhat sloughy condition of the wound made by the operation.

The trachea was healthy, with the following exception:—on its posterior face was an ulcer an inch long and a quarter of an inch broad, with sharply cut and rather irregular edges, completely perforating the mucous membrane. This ulcer exactly corresponded to the back of the tube, and commenced one-eighth of an inch below the wound. The mucous membrane surrounding it was injected. Its surface presented small granulations, but no blood adhered either to it or to the pharyngeal ulcer.

The trachea contained fluid blood, especially in its lower portion, where soft coagula loosely filled both bronchi. Soft coagula extended along the tubes, in many parts to their ultimate ramifications; but no spots of pulmonary apoplexy appeared. The mucous membrane of the bronchial tubes, together with the lungs, was perfectly healthy. The heart was quite healthy, though pale; the liver was large and pale; its tissue was very indistinct; its cells were nearly free from fat; the kidneys were healthy.

The cause of the sudden attack of difficult breathing was, no doubt, acute œdema of the arytenoid folds, already so much thickened, induced by exposure during her railway journey in the fore-part of the day. The larynx afforded a good example of pure syphilitic inflammation, confined to the parts external to the cavity.

The cause of death was of a very unusual kind: hæmorrhage from an ulceration of the mucous membrane of the trachea, produced, there is every reason to believe, by the pressure of the tracheotomy-tube; the mucous membrane of the entire larynx and of the re-

mainder of the bronchial passages was perfectly free from ulceration; and the position of the ulcer, without question, accurately corresponded to the back of the tube.

The source of the bleeding was, no doubt, the numerous small vessels supplying the mucous membrane of the trachea, precisely as the similar vessels beneath the mucous membrane of the stomach sometimes supply the blood in cases of hæmatemesis from the "perforating ulcer" of that viscus. The hæmorrhage would probably be hastened as asphyxia was induced, in consequence of escape of blood into the bronchial tubes.

It is probably not an infrequent occurrence for small ulcers to be produced by the tube in tracheotomy. In a case which occurred to me, some time ago, the patient had hæmoptysis during his convalescence, which ceased entirely after the employment of a solution of nitrate of silver; and my friend Mr. Baker has a drawing of a trachea, after the operation, in which a small ulcer corresponds to the situation of the tube. In our present case, the cachectic state of the patient, joined with the presence of the syphilitic poison, would favour the production of an ulcer; and, no doubt, the rapidity with which the ulcer was formed, together with its large size, were circumstances favourable to the occurrence of hæmorrhage. We may add, that the impoverished state of the patient's blood would also tend in the same direction.

Original Communications.

ON THE CARBUNCULAR TYPE OF DISEASE: ITS SEPTIC CAUSES, AND ANTI-SEPTIC TREATMENT.

By DAVID NELSON, M.D. Edin., late Physician to the Queen's Hospital, and Professor of Clinical Medicine, Birmingham.

(Read before the Midland Medico-Chirurgical Society.)

[Concluded from p. 332.]

CASE III. Mrs. M. B., aged about 48, first applied to me in Nov. 1856. She had been suffering from a succession of painful dark-coloured boils in all parts of her body for a period of more than four months. There were marks of the old ones that had healed up; others had burst and appeared as foul deep open sores; while fresh ones were in process of growth. For some time before these four months, she had been afflicted with nausea, dyspepsia, and general lassitude; and the catamenia had been becoming less and less regular, the fluids so discharged being often of a very offensive kind. She had poulticed the boils till they burst, or were opened; and had taken inwardly purgative medicines, along with infusion of gentian and soda. I prescribed for her use, two drachms of compound tincture of bark with one grain of sulphate of quinine, and the sulphuric and hydrochloric acids, with hydrochlorate of morphia, thrice a day.

Dec. 1st. She reported herself much better. The deep ulcers looked healthy and were rapidly filling up; the others had greatly diminished, and no fresh one had appeared. She, however, complained of gnawing pains in her limbs and joints generally, and the urine had a great deal of pinky furruraceous sediment; wine of colchicum was therefore added to the mixture, in moderate doses of twelve to fifteen drops.

Dec. 8th. All the boils were either gone, or fast healing. She had no pain, slept well, ate and drank well, and had no lassitude. She continued using the bark, with the mineral acids, up to Dec. 22nd, when she said she felt better and stronger than she had for

several years. Here we see a debilitated constitution at the critical period of female life, irregularity and putridity of the menstrual flux, the appearance of crop after crop of boils through a period of several months, without any indications of improvement; and yet the favourable change is rapidly brought about by the treatment advocated. From all these facts there can be but one legitimate inference.

CASE IV. Mrs. E. J., aged 35, consulted me on 5th October, 1857. She had three months before been confined, and had been very ill for six weeks after the delivery, suffering during that period from a continued flow of putrid matters from the uterus and low fever. The child died, and the milk left her. She then had an abscess in one of her breasts, and next came a succession of boils, which had continued to appear up to the time of seeing me. She was pale and exhausted, and was deprived of sleep from the pain of the boils. Her bowels were excessively costive; and she now took a moderate draught of sulphate of quinine, and sulphate of magnesia, with compound tincture of senna and aromatic sulphuric acid, every morning; while she had the compound tincture of bark, with iodide of potassium and morphia, midday and night.

OCT. 12. No more boils had appeared; she felt easier and stronger, and had slept well. She reported that she had had a slight reappearance of uterine discharge, and was therefore ordered tincture of sesquichloride of iron, with hydrochlorate of morphia, ergot, and hydrochloric acid, three times a day.

OCT. 20. A full discharge of the menstrual fluid was reported; the old boils were shrinking, and no fresh ones had shown themselves. Compound colocynth pills were ordered nightly if required, and she had the compound tincture of bark, with the sulphuric and hydrochloric acids, and morphia, thrice a day.

OCT. 26. She continued quite well; but was pale and weakly. She took for a time thereafter steel and quinine, and recovered her strength and colour. In this case, we have again evidence of the existence of a putrid excretion within the body; its probable absorption and natural effect upon a weakened frame; viz., the accession of mammary abscess, followed by crops of boils, and their arrest by the treatment employed.

CASE V. Mr. D. W. of Moxley, aged 32, had originally been a person of great muscular and constitutional strength; but, from having had a severe accident, with subsequent prolonged illness, had become much reduced. He was engaged in mining, and had been crushed, about two years before seeing me, under masses of mineral that had fallen upon him. The chief crushings had been on one of the legs, and on the chest. Carious disease of the tibia and of the sternum had supervened, which led to fistulous ulceration of the surrounding tissues. For this he had been under the treatment of various practitioners, who had chiefly recommended him *poultices and patience*; but, sometimes, in his *impatience*, he had fled to empirics, as well as to consulting surgeons and physicians, seeking in fact for impossibilities beyond human performance. For about six weeks before he came to me, which was late in March 1859, he had had, in addition, sundry boils which deprived him of sleep, and gave him great pain. He was pale and emaciated, and extremely restless, excited, and anxious. In fact, he was in dread of impending death, as some one had told him that the breast ulcers would never stop, but would eat into his chest. However foolishly excited, he was naturally a sensible and well informed person. I told him that he had been impatient without reason; that time would be a necessary element in the cure of such a case; and that, if he maintained the powers of the constitution by tonic medicines and tonic diet, and would not worry himself with fanciful fears, nature might do all that he desired. He was ordered to have the pointing boils opened, and

the orifices of the sinuses a little widened; and, while he dressed these either with black wash, or with a lotion of the chlorides of mercury and iron, he took, internally, the compound tincture of bark, with iodide of potassium, colchicum, and morphia. His diet was to consist of eggs, meat, and bread, with Dublin or London porter at dinner, and port wine negus at night. He said he had been keeping himself on low diet for fear of inflammation. Such was his idea.

APRIL 4th. He reported himself as being, in the expressive vulgarism of his locality, "*a king*." He had, that is to say, slept well, and enjoyed his food, felt strong on his legs, and had no pain whatever. No fresh boils had appeared; while the old ones, as well as the fistulous ulcerations, had a more healthy aspect. There were some large hard lumps, like abortive boils, and a fair crop of iodic pustules. The treatment was continued.

APRIL 18th. There were no boils whatever, and he felt well; though, of course, the carious and fistulous ulcers existed. He now omitted seeing me for more than a month; when he returned with some fresh boils, though they were of no great size. He was told he might expect such recurrences as long as the bones remained diseased. He now took the mixture morning and evening, and a pill of quinine and steel at dinner time.

MAY 30th. The boils had vanished again, and he was improving in every respect.

JUNE 30th. There was no thickening of periosteum over the tibia or sternum; and the fact of the sinuses filling up with healthy tissue, and having very little discharge, and that of a healthy character, afforded proof of the improvement of constitutional condition. From this time, he either took Huxham's tincture with the sulphuric and hydrochloric acids, or when the palate tired of this, pills of quinine and iron, thrice a day.

Through July and August he steadily improved, and by the latter end of September, he was perfectly well, nothing but the skin-marks of even his injuries remaining. In this case we have a similar sequence of events, the mechanical injury sustained had ultimately affected the bones, the well known fistulous ulcers of caries had supervened, generating putrid effete fluids. These were doubtless absorbed into the exhausted system. Crops of boils appeared, and these were arrested by the tonic and antiseptic treatment. When this treatment was interrupted for a time, some more boils began to reappear; but again vanished on a renewal of the treatment. The other points of the case only bear incidentally upon the essential argument: yet, collaterally, it may be observed that the carious disease also disappeared under the treatment, in the course of time.

CASE VI. Mrs. W. B. consulted me at the end of 1858. She said she enjoyed perfect health, and that I might think it foolish of her to come to me with what some of her acquaintance considered to be, not only trifling, but indicative of good condition; nevertheless it was a great inconvenience to her. The cause of her complaining was a series of small boils, considerably larger than mere pimples, and very hard and painful. They had continued to come and die off in regular succession over her cheeks, head and neck, for more than two years. She said vaguely that she had taken all manner of medicines, including sarsaparilla, cod oil, and every other pretended panacea; and applied all sorts of lotions and ointments in vain. I advised the use of mild aperients, a warm bath twice a week, and the compound tincture of cinchona, with the sulphuric and hydrochloric acids. After a fortnight, the eruption had much abated, and in a month had gone.

About two months afterwards, it reappeared, and she saw me again. On this occasion, I inquired about her jaws and teeth, and learned that she had had several teeth decayed on the left side, some having been broken in

the attempt at extraction, and the old stumps having been left in the sockets. The bones, she said, had been broken on those occasions, and the crops of little boils frequently commenced by the appearance of a common gum-boil. I advised removal of the decayed parts; but she put the matter off on account of former misbaps. The small boils were frequently removed by the medicine, and as frequently reappeared; but after the proper removal of the old stumps, etc., she ceased to have any more. This case was certainly merely annoying, and far from dangerous; yet I think it illustrates the same series of events as the other more serious ones; viz., absorption of decayed matter, its eruption on the surface in the form of little boils, and the alterative effects of the antiseptic treatment while it was continued.

CASE VII. Mr. J. H., aged 62, came to me on 17th August, 1858. He had been excessively weak and low for several months past, and for two months had had a succession of boils, which he had been contented to have poulticed, while he took cream of tartar and sulphur inwardly every day. At length, a very large boil, or carbuncle, appeared on the nape of the neck, which compelled his more serious attention. His pulse was small, and the heart's action fluttering, weak, and intermittent. I advised immediate opening, which was effected by a good crucial incision, in the course of that day or the next, by my friend Mr. Downes of Handsworth; and he took quinine, compound tincture of cinchona, colchicum, morphia, and the acids.

Sept. 2. He felt easier and stronger, though the carbuncle was tender, and exhibited the appearance of a very deep foul cavity, containing the broken up core and bloody sanies. The other smaller boils had shrunk, and he had eaten and slept pretty well. No fresh outbreak had occurred.

He was seen on the 6th, the 13th, and 22nd of September, on which last day all the smaller boils had disappeared, and the large gap in the nape of the neck was almost closed. He reported himself strong, and fit to walk for many miles without fatigue, of which fact the heart's action gave corroborative evidence. He took for some time thereafter pills of quinine and steel, and had no relapse. I could not here distinctly trace any prior putrid infection; but it was a case in which I think the mere opening, and poulticing, and giving bland diet, would not likely have served the purpose, as the constitutional depression was so marked, and the patient advanced in years.

CASE VIII. A lady in Shropshire consulted me some time ago regarding the obstinate recurrence of boils over her abdomen, back and arms, and also in the perineum. She was about 47 years of age; long married, but without any children. She had always suffered from painful menstruation; but of late the discharges had been more protracted than usual, and at the latter end had exhibited signs of putridity. The os uteri was found to be exceedingly small, and I concluded that, at the catamenial periods, there was a retention of some thickened fluid towards the end of the effort, which fluid became putrid, and was partly absorbed into the system. Under this conviction, I advised dilatation of the canal of the cervix, and prescribed, not only quinine, but a mixture of the tinctures of steel, lytta and ergot, with morphia and hydrochloric acid, to be taken twice a day ordinarily, and three times a day at the catamenial periods. Under this treatment the boils ceased to appear; while the menstrual flux came to last only four days, without pain, and without putridity. Here I felt satisfied that the sequence of events afforded proof of the truth of the general diagnosis; namely, the presence of putrid matters absorbed into the blood, giving rise to a series of boils, which vanished under the eliminative and corrective line of treatment, adopted in accordance with the theory of septic poisoning.

SCROFULOUS DISEASES OF THE EXTERNAL LYMPHATIC GLANDS:

THEIR NATURE, VARIETY, AND TREATMENT.

By P. C. PRICE, Esq., Surgeon to the Great Northern Hospital; the Metropolitan Infirmary for Scrofulous Children at Margate; etc.

III.—TUBERCULOUS DISEASE OF THE EXTERNAL LYMPHATIC GLANDS.

[Concluded from page 301.]

V. It not unfrequently happens, when ulceration follows suppurative of tubercular glands, and heals without the direct attention of the surgeon, that the implicated integument remains disfigured by induration, unseemly scars, and uneven cicatrices. Under such circumstances, the use of certain measures, to be presently described, will oftentimes lead to a favourable solution of the existing disfigurement.

a. *Lotions.* When induration of the integument and adjacent cellular tissue results from the healing of tubercular ulcerations, it may frequently be removed by absorption, especially when it is of recent origin, and correct therapeutical means are employed. Without doubt, solutions of various salts of iodine will be found among the most valuable adjuncts which the surgeon has at his command. Mr. Erichsen, in his *Science and Art of Surgery* (3rd edit., p. 465), strongly recommends lotions of iodide of potassium and carbonate of potass: a drachm of each of the salts, with an ounce of spirits of wine and eleven ounces of water, makes, he says, an excellent application, which should be kept constantly applied to the implicated parts by means of linen or lint covered with oil-silk.

I am in the habit of substituting iodide of ammonium for iodide of potassium, as I have reason to believe that it will be found more beneficial. Sir Astley Cooper placed great faith in a solution of chloride of ammonium; and other surgeons of large experience have written in favour of the use of simple alkaline solutions. Whatever liquid applications are employed, it is all important that sufficient time should be given for a trial of their efficacy; for it oftentimes happens that a satisfactory result is only obtained after their most persistent use.

b. *Unguents.* When the application of lotions has failed to produce the desired effect, it will be advisable to have recourse to some more definite measures to procure absorption and removal of the indurated condition. I have experienced considerable advantage from simple frictions, especially when no abnormal tenderness has been exhibited by the implicated parts. But still greater good will oftentimes be derived from the additional use of certain ointments and oils.

When the aplastic deposits are of long standing, the use of an ointment composed of iodide of ammonium, such as already described, will often lead to gradual softening and absorption of the hardened surface to which it is applied. The great advantage of this application is, that it can be used with freedom without imparting to the skin the peculiar colour which the local employment of pure iodine produces, and whilst equally effective, or nearly so, is, in many ways, less objectionable to the patient.

When it is deemed necessary to make use of mercurial preparations, the *unguentum hydrargyri* may be selected; or, under certain circumstances, iodine and mercury may be combined in one or other of the forms previously considered. I have elsewhere spoken favourably of the use of oils, when assiduously rubbed into the integument covering an indurated gland; and I can also recommend their employment in all false hypertrophies of the skin and cellular tissue. When containing iodine, mercury, or certain stimulating substances, such as am-