taken and roughly modelled to the shape of the growth. The light is again turned on, and the tumour re-examined. With a little trimming by means of the knife and fingers, the clay shape is made to assume the form of the growth. It is finally stuck on to the concave clay in the bowl, its position being easily marked by pricking two slits to represent the orifices of the ureters.

Fig. 1 is a photograph of a clay model which was taken of the bladder of a patient suffering from epithelioma of that viscus. The case was sent to me in April last by Dr. de Gruyther, at the suggestion of Dr. Carmalt Jones, with the diagnosis of vesical growth. On examining the bladder with electric light, a smooth, multilobed, malignant growth was seen projecting from the posterior wall a little above the interureteral bar. A rough sketch of its position and size, with a note to the effect that the tumour was invading the gut, and that operative interference was useless, was sent back with the patient. A clay model was subsequently made and photographed (Fig. 1). The patient was admitted into, and died in, the Cancer Hospital in September. On *post-mortem* examination the position and invasive character of the growth were verified. The clay model and the specimen now give a rough but valuable indication of the rate of growth of the tumour during the last five months of the man's life.

The delicate "villous tumour" (papillary fibroma) is most difficult to represent in clay, but it will be found that the villous processes can easily be modelled in appropriately-coloured wax or ordinary dental wax. The second photograph (Fig. 2) was taken

Fig. 2.

from the wax model of such a case. The patient was brought by Dr. Harle, of Hackney, with painless hæmaturia and a diagnosis of probable vesical growth. A very beautiful "primrose-leaf" villous-surfaced tumour was seen attached to the upper lip of the left ureteral orifice, its long individual leaves swaying apart at each jet of urine propelled from the subjacent opening. Some of the leaves were whitish from loss of blood-supply. Its pedicle appeared to be succulent and epitheliomatous. The patient was leaving for Australia in less than two days and a half, but he was able to take with him a photograph (Fig. 2) which will afford the surgeon he next applies to a sufficient representation of the position of the disease he is called upon to treat.

Besides the value of thus keeping a record of vesical disease, or of sending a photograph or model to the practitioner in charge of the case, there is a still greater benefit to be derived from modelling vesical growths. The mere attention which the manipulation involves calls forth the observation and the recognition of those minute differences upon which *prognosis and treatment* must depend; for it cannot be too strongly insisted upon that the

electric cystoscope ought not only to be an efficient aid to diagnosis, but ought also to assume the higher position of a prognostic agent which may deter the surgeon from needless interference, or may indicate to him the form of operation best suited for the removal of the growth in question.

ON AN OBSCURE CASE OF LARYNGEAL STENOSIS: TRACHEOTOMY.¹

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PERHAPS there are few organs of the body the pathology of which was so obscure as that of the larynx, till the introduction of the laryngoscope into medicine by Türck and Czermak in 1858, when ocular inspection of the interior of the larynx disclosed so many important and unsuspected facts, that a new era may be said to have been inaugurated at that period.

Although the literature of the subject received a new impulse from the discovery of this important aid to diagnosis, I still think the differential diagnosis of laryngeal disease remains a subject involved in considerable obscurity. The difficulty in distinguishing between laryngeal stenosis, the various forms of neoplasm, and carcinoma of the larynx, has been well exemplified by the world-renowned case of the late German Emperor.

Now it so happens that I have at present under my care at the Norfolk and Norwich Hospital a case of laryngeal disease, the symptoms of which not only presented the same amount of obscurity as those of the Emperor, but they marched as it were *pari passu* with those of the unfortunate monarch. At the same time that differences of opinion were enunciated at San Remo about the Emperor's case, the symptoms of my patient were enveloped in great obscurity; and tracheotomy was considered necessary in the two cases at about the same time, happily with a different result, for the amiable but unfortunate monarch has succumbed, whilst my humble patient is progressing toward recovery. I have therefore thought it not an inappropriate case to form the subject of a brief communication to this meeting, not so much from anything very striking in the clinical history of the case *per se*, but because it presents many features of special interest in connection with the differential diagnosis of laryngeal disease.

On January 28th, 1888, M. B. was admitted under my care into the Norfolk and Norwich Hospital. She was a cachectic-looking woman, 21 years of age, had the appearance of being half-starved, was decidedly below average intelligence, and was able to give only a most imperfect account of herself. She had been married about eight months, and began to feel unwell a month after her marriage. From careful inquiry into her antecedent history no hereditary predisposition to phthisis could be traced, although her mother, then a woman of 50, informed me that she herself was considered consumptive when a girl.

On admission, she complained of what was considered at the time to be ordinary sore throat. She was hoarse, and said that her voice became affected about two months previously; there was general congestion of the fauces and pharynx. Catamenia were stated to be regular. Under ordinary remedies she improved somewhat; but at the end of a fortnight the breathing became stridulous, and a laryngoscopic examination was made, disclosing a swelling of the aryteno-epiglottidean folds overhanging the vocal cords; there was no marked dysphagia. Her diet was carefully regulated. A combination of iodide of potassium, ipecacuanha, and squills was administered, the tincture of benzoin was used in the form of spray, and an equable temperature of 65° maintained in the ward.

The question now arose as to what was the cause of her symptoms. Was the laryngeal condition of a tuberculous or of a syphilitic nature? for her state of health seemed reconcilable with either hypothesis. I have already stated that no hereditary predisposition to phthisis could be traced, for clearly no importance could be attached to the statement of the mother, already mentioned, that thirty years ago she was considered consumptive. Her condition of life and social surroundings rendered it extremely probable that there might be a syphilitic taint. I could find no evidence of primary venereal disease in the patient herself; but thinking there might be some hereditary taint, I questioned the

¹ Read before the East Anglian Branch of the British Medical Association at Eye.

father, who seemed to have had gonorrhoea many years since. In reference to the mother, I ought to add that, from her ten pregnancies, three children were born dead, and three miscarriages. As one clearly had to do with stenosis of the larynx, various topical remedies were tried, and she was kept under the influence of the spray of carbolic acid, and of tannin, besides other local remedies.

Little or no improvement ensued from this treatment, and I find, on February 30th, three weeks after admission, the following condition described by our excellent house-surgeon, Mr. Nance, to whom I am indebted for much information in reference to this case: "The stridulous breathing has greatly increased; there is cough, with a little expectoration, purely mucous in character; there is recession of the intercostal spaces, and very little air enters the lungs, either in front or behind, and there is a slight amount of dulness under the left clavicle. The pulse is 144. Respirations 40, temperature 102°."

I have very copious notes of the daily progress of this case, which I need not reproduce here; suffice it to say, the dyspnoea became so urgent, that death from apnoea seemed impending, when, after a consultation, it was agreed to submit her to the operation of tracheotomy, which was performed by my surgical colleague, Dr. Beverley, on March 6th. The patient was first put under the influence of chloroform; but, on account of the feebleness of the pulse, the anaesthesia was maintained first by chloroform, and then by the A. C. E. mixture, which was considered safer. The patient became very livid just before the operation was finished, and her respiration ceased just before the tube was inserted. She regained her colour, however, at once, upon taking a deep respiration, her snoring ceased, and she became most tranquil. No vessel required ligature, the operation was quickly done, and Durham's lobster cannula was inserted.

On the next day I find the report states that she had a good night. "She breathes easily, face placid, pulse 120, respirations 28, now thoracic. The air enters the lungs freely, both in front and behind, and there is now no appreciable dulness under the left clavicle, and no recession of intercostal spaces."

"March 12th. *Laryngoscopic Examination.*—The larynx and tonsils are swollen, larynx especially. The epiglottis is red, a little depressed, thus rendering the view of the glottis difficult. The mucous membrane over the right aryteno-epiglottidean fold is swollen, throat tender."

I need not continue the daily report of this patient's symptoms; suffice it to say that from the time of the operation she continued to improve, and rapidly gained flesh, and is now quite well, but is still obliged to wear a cannula.

There are one or two points in the treatment of this case worthy of brief comment. One or two of my colleagues having suggested the possibility of some venereal taint, I put her under the influence of perchloride of mercury, together with Plummer's pill, night and morning. This had no beneficial effect, but rather the reverse; and she has lately steadily improved under cod-liver oil and local treatment; the latter consisting of the direct application of nitrate of silver to the larynx, thirty grains to the ounce, applied by the laryngeal brush, no discomfort arising from its application. On one occasion a weak solution of five grains to the ounce was applied direct to the trachea through the tube, the tube being a little withdrawn.

In all cases of tracheotomy, the particular kind of cannula becomes a matter of primary importance. In the first instance, as before stated, Durham's lobster cannula was inserted; Fuller's bivalve cannula was afterwards used, and subsequently Marrant Baker's leather or india-rubber tube. It was found that the rubber tube became frequently occluded with mucus, necessitating its frequent removal. Fuller's metallic bivalve was again resorted to, and it seemed to answer well, the inner tube being removed twice a day. As I before stated, the patient is practically well, but cannot dispense with the tube, for, if it is removed, she cannot breathe for more than a few seconds.

One or two points for consideration arise in connection with this case; first, in reference to diagnosis. I have already said that previous to the operation, differences of opinion existed as to the pathology of the case, and the subsequent history of the patient has not furnished the elements of an unassailable diagnosis. Some of my colleagues inclined to a syphilitic, others to a tubercular, origin. It will be observed that the evidence from the symptoms observed was principally of a negative character, and the history of the illustrious patient whose illness has created such a sensation all over the civilised world shows that even with our improved methods of investigation, our present know-

ledge of laryngeal disease, whether of a benign or of a malignant character, is by no means as perfect as could be wished.

First, as to *syphilis*; there was clearly no evidence of primary syphilis. Mackenzie says that condylomata are one of the most characteristic symptoms of syphilitic laryngitis; and Gerhard has found them present in twenty per cent. of the patients suffering from secondary syphilis. The interarytenoid commissure and the epiglottis are the parts most frequently observed to be affected. Later on, deep and extensive ulceration occurs, especially attacking the epiglottis, coinciding with great dysphagia. None of these symptoms were present in my case, and careful inquiries as to her antecedents furnished no information pointing to a syphilitic origin. There is an absence also of the constricting cicatrices mentioned by Riegel in Ziemssen's *Cyclopaedia*, as characteristic of syphilitic stenosis.

Laryngeal Phthisis.—Although it occurs occasionally before there is any evidence of lung disease, usually occurs consecutively to pulmonary phthisis; and Mackenzie goes so far as to say that he has only three times met with a case of laryngeal phthisis in the dead subject, without finding corresponding pulmonary disease. Now, the only symptom leading to the least suspicion of pulmonary disease was a very slight dulness on percussion under the left clavicle, unattended, however, by the least morbid auscultatory sign. There was no persistent high temperature, there was some slight expectoration of a purely muco-gelatinous character, and no tubercle bacilli could be detected by Dr. Gibbs's staining process; besides, the rapid gaining of flesh and the very marked general improvement of the health would seem to be irreconcilable with the theory of the disease being of a tuberculous nature. I find in Dr. George Johnson's recent work *On Diseases of the Kidney*, that submucous oedema of the larynx sometimes occurs in the form of Bright's disease, characterised by the large white kidney. I may add that there never was any albumen in the urine, or any symptom pointing to renal disease.

The patient has a good appetite, seems perfectly well, and is able to take exercise in the garden, but a laryngoscopic examination, made three days ago, still shows marked stenosis, caused principally by swelling of the aryteno-epiglottidean folds, encroaching, as it were, on the epiglottis, which is thus drawn downwards.

The patient, although relieved of all her urgent symptoms, has remained for the last two or three weeks in *statu quo*, and the question arises as to how long she may be obliged to wear the tube. I am acquainted with a gentleman in this locality, who is otherwise well, but who is probably condemned to wear a tube for the rest of his life.

I venture to submit these hasty notes of this interesting but somewhat obscure case, in the hope of eliciting the opinion of this meeting, and of profiting by the combined experience in similar cases of the East Anglian Branch of the British Medical Association.

CLINICAL MEMORANDA.

CASE OF PERNICIOUS ANÆMIA.

A GENTLEMAN, aged 43, called to consult me in the autumn of 1888. He had been failing in health for quite a year previously. His illness commenced with languor and dejection, and his wife was of opinion that some business transactions, in which he had been thwarted, had been the origin of the trouble. Since then he had gradually got worse and worse. He had an excellent family history, both parents having been strong, healthy people, and his brothers and sisters healthy vigorous people, as also his own children. He had always been a most temperate man, and had neither drank nor smoked much. When I saw him, he said he was so weak that he could hardly walk half a mile, and he had considerable difficulty in getting upstairs. His appetite was miserably poor. The patient was pale, with white lips and gums, and I detected soft pitting of his ankles and on the front of his shin-bones. His pulse, when sitting, was about 80, but, when he stood up, it rose to 100. He passed about forty ounces of urine daily, without much sediment. He was slightly constipated, but used an enema every night before going to bed. There was no trace of albumen or sugar in his urine, the specific gravity of which was 1020. On examination of his blood I found the red discs small in size as compared with those of healthy specimens, and could see no white corpuscles in the field.