REMARKABLE INSTANCE
OF A
GROWTH SPRINGING FROM THE
EPIGLOTTIS,

WHICH WAS SUCCESSFULLY REMOVED WITH THE AID
OF THE LARYNGOSCOPE.

BY
GEORGE DUNCAN GIBB, M.D., LL.D., M.R.C.P.,
ASSISTANT-PHYSICIAN TO, AND LECTURER ON FORENSIC MEDICINE AT, THE
WESTMINSTER HOSPITAL.

Received October 13th.—Read November 8th, 1864.

ALTHOUGH the pathology of the epiglottis has been greatly enriched since the revival of the laryngoscope, tumours or growths springing directly from the cartilage itself are very uncommon. This is proved by an examination of the rich museums of the metropolis, wherein the rarity of epiglottic growths becomes quite apparent. After an extensive experience of affections involving the throat and larynx, I must acknowledge, if diseases of the cartilage arising from inflammation or other causes be excluded, that offshoots or growths are seldom to be seen. However, on a careful scrutiny of all the museums in London, and in many of the provincial towns, I have met with a few instances of tumours growing in the vicinity of the epiglottis, and not unfrequently involving the cartilage, or so compressing it

downwards as ultimately to destroy life. And in some of the London museums examples may be seen of vegetations extending to the laryngeal surface of the cartilage; such cases are noticed in the "Table of Growths" in the second edition of my work on 'Diseases of the Throat,' lately published, and need not be recapitulated here. In one of these cases (No. 14) the posterior surface of the epiglottis of a child, preserved in University College Museum, is studded with warty vegetations; in another (No. 16), in St. Bartholomew's Museum, a flat spongy growth of a medullary nature springs from the laryngeal surface of the epiglottis and superior orifice of the larynx of an adult. The case of mucous cyst of the laryngeal surface of the epiglottis brought before this Society at its last session by that experienced observer, Mr. Durham, will be in the recollection of the Fellows. In all these instances the laryngeal and not the lingual surface of the cartilage was affected.

Any addition, therefore, to our information upon an important and dangerous form of disease, more particularly involving the lingual surface of the epiglottis, must necessarily prove acceptable. It is just possible that, now that we have the laryngoscope to aid us, other and perhaps similar examples to that now brought before this Society may present themselves. It is probable that such cases may have occurred in the practice of others, but they could hardly have escaped detection, as the impediments they would offer both to breathing and swallowing would have directed attention to the throat, and their discovery would have been rendered all but certain, even without an acquaintance with laryngoscopy. So far as the evidence at present extends, we are justified in concluding that epiglottic swellings, resulting from morbid growths or otherwise, are rare phenomena in medicine, and yet when they do arise an error in diagnosis is likely to lead us to look upon any measures resorted to for relief as almost hopeless, for the impression would be that the œsophagus or larynx is so involved that all interference would be not only useless, but positively hazardous.

With the view, therefore, of placing upon record a case of

great practical value and interest, and at the same time showing what may be done under circumstances apparently most urgent, the following case is brought before this Society. It shows very satisfactorily how some of the great functions of life—swallowing, for instance—may be affected by causes wholly distinct from those at first suspected.

The particulars of the case shall be first narrated, and a general commentary will then be offered upon it.

Mrs. S. B—, æt. 60, the wife of a clergyman, consulted me on July 5th, 1864. Her son, a medical gentleman, who lived at a distance from her, wrote to tell me that she had suffered from her throat for two years, nothing having been detected but chronic inflammation. He was convinced, he said, from her symptoms, that there was stricture of the œsophagus. For twelve months matters had been getting worse; in addition to the presence of dysphagia he had heard of great pain and bloody expectoration, and was afraid that the stricture was malignant and in a state of ulceration. This induced him to pay her a visit, when he discovered a polypoid tumour, the size of a small walnut, at the back of the mouth. He pointed this out to her medical attendant, and recommended its immediate removal. She proposed coming to London to consult me. How far the polyp (he wrote) has to do with œsophageal narrowing, will be interesting to know.

I attached much importance to this gentleman's opinion, for he had himself removed two pharyngeal tumours by a double canula and wire through the nose, and was about to remove another.

On presenting herself to me I found her pale and wan, and somewhat emaciated; she spoke in a low, thick, guttural tone, as if the mouth was full of food; indeed, the character of the voice was peculiar in this respect, and clearly pointed to influences wholly above the glottis; dysphagia was complete with fluids, but she could swallow a little farinaceous food, such as Indian corn flour, milk and arrow-root, and a little soft bread, or an egg. In attempting to swallow fluid it would not pass downwards, and frequently came through the nostrils. She had not had any dyspnœa, except when she

lay on her back in bed at night. She coughed and expectorated during the whole of the night, but not in the day-time. The expectoration was mucous and frothy, sometimes mixed with blood, at times thick and stringy.

Inspection with the laryngoscope.—A distinct roundish, prominent, and projecting tumour, the size of a small walnut, was seen occupying the position of a pendent epiglottis, which during the act of swallowing became elevated, and could be seen with the unaided eye at the back of the mouth, pressing against the pharynx. The epiglottis itself was not seen, nor the interior of the larynx, but the posterior margins of both arytenoid cartilages could be observed. It seemed as if the tumour—partly divided by a sulcus antero-posteriorly—grew from the lingual surface of the epiglottis. The anterior surface and right border of the tumour were red and vascular, in some parts of a whitish colour and eroded, giving rise to free expectoration of mucus and some oozing of blood. The breathing was unaffected.

Seeing the nature of the case, I obtained the assistance of Mr. Ure, and again examined the throat in his presence; he readily recognised all that has been described, with the utmost distinctness, and agreed with me in the propriety of removing the tumour. Indeed, there was nothing in the patient's history, family or otherwise, to contra-indicate it; the appearance of the tumour, too, although suspicious, was not malignant, partaking somewhat of a spongy character. Believing that the entire cartilage was involved in the disease, my intention was to remove the whole mass, including all the free portion of the epiglottis, and then to trust to the efforts of nature so to contract the upper laryngeal orifice as to permit of swallowing without inconvenience, as happens in cases where the free portion of the cartilage has been destroyed by ulceration or accident. The patient's spirits were perfectly good, and she was prepared to undergo anything for relief.

On the 6th my laryngoscopic inspection was even clearer than the day before, yet more of the true epiglottis was seen. The interior of the larynx was nearly observed twice.

Fig. 1 gives the view of the tumour with the unaided eye at the back of the mouth. (See woodcut.)

FIG. 1.—View of the tumour, with the unaided eye, at the back of the mouth.

FIG. 2.—Upper surface of the tumour, showing its actual size and shape.

FIGS. 3 and 4.—Microscopic appearances of the tumour from the centre and edge of the section.

7th.—At 3 o'clock p.m. I proceeded to remove the growth. The room was darkened and a moderator lamp placed upon a table towards the left of the patient, who was comfortably seated in a chair higher than the one used by myself; her head was steadied by Mr. Philps, who stood behind her; Dr. Logan was seated at her right side, and held her tongue out; whilst Mr. Ure, standing to my left, was ready with a pair of long vulsellum forceps to seize the tumour at the back of the mouth the moment it was detached. Mr. Holthouse and the lady's husband were also present.

A frontal mirror was used, and worn just above the nose, to permit of a central uninterrupted light and the employment of both eyes freely. Chloroform was not given, and there was not any undue sensibility about the throat and fauces. Everything being prepared, the laryngeal mirror was introduced and the growth was readily seen by every one present. I then steadied the light and introduced the mirror into the mouth with my left hand, and with my right the thick loop of wire and shank of the *écraseur*; the loop of wire was passed over the tumour, but an immediate effort at retching occurred, and the tumour at once slipped out. Seeing this, I dispensed with the little mirror, pressed down the tongue at its middle with my left forefinger, passed the loop of wire in a second time, snared the growth to its very base, and at once drew the wire home and detached the tumour; at the same instant of time Mr. Ure passed in the vulsellum forceps and as quickly removed it from the mouth.

A little coughing ensued, with expectoration of blood, which was lessened by gargling with cold water. As it was a little persistent, the mirror was introduced and blood was seen to exude from the entire lingual surface of the epiglottis, from which the tumour had been removed as cleanly as if by a knife; the denuded surface possessed a scarlet redness, and its margins were well defined. I immediately brushed this with a strong solution of tannin, with great advantage, the mirror enabling me to guide the brush.

The voice, from being thick and guttural, was at once altered to a smoother and more agreeable tone, and swallow-

ing could be attempted in small quantities, and a glass of wine and water was got down in this way. The firmness and great presence of mind displayed by the lady herself greatly contributed to the success and celerity of the operation. A gargle and drink of decoction of barley were prescribed, and rest in the recumbent posture.

The tumour became a little flattened after removal; its diameter was that of a small walnut, but not so thick; it was softish and spongy; variegated in colour, being a mixture of opaque white, purple, and red, and apparently very vascular. It did not possess a malignant aspect, but seemed epithelial, springing apparently from the mucous membrane of the lingual surface of the epiglottis alone. Although by no means pedunculated, its base was not as large as the growth itself, probably a fourth less, which was the fortunate circumstance which admitted of the wire loop passing between it and the epiglottis. The upper and posterior surfaces, towards the right, were of a mouldy colour; it is shaded dark in fig. 2 (see woodcut, p. 5), which is a sketch of its actual size and shape, and shows its upper surface.

As previously mentioned, I had intended, and, indeed, actually expected, to have taken away the entire free portion of the epiglottis, but fortunately it turned out otherwise. I had provided myself, therefore, with various appliances to arrest hæmorrhage, or obviate any other inconvenience that might have arisen in the event of removal of the epiglottis. I was ably assisted by all present, and am much indebted to Mr. Ure for his prompt and speedy removal of the growth from the mouth after its detachment with the *écraseur*, else its lodgment might have proved detrimental to the patient.

8.30 p.m.—Found her going on well, but as the barley decoction proved a little thick, a gargle was prescribed of tannin ʒij, syrup of roses ʒij, and water ʒviij. This seemed the more advisable, as there was still some oozing of blood. I advised, also, a teacupful of bread and milk at bedtime, to induce sleep, as she had had no rest during the previous night.

8th.—Slept well, and to-day is quite comfortable; she can swallow much better, but necessarily with a feeling of some

soreness. She was eating more, too, and had taken a little soft bread. Was sitting up as usual, and not confined to bed.

11th.—She called upon me, and complained of a little soreness and pain in the left ear and temples, as before the operation; she eats better, but has not tried anything solid. Cough still rather troublesome. The laryngeal mirror showed the cicatrix narrowing on the surface of the epiglottis. The right side still seemed pretty thick. Applied a solution of tannin, and prescribed a gargle of bromide of ammonium, alum, glycerine, and water.

12th.—Freely applied a solution of the iodide of silver in ether and water, in the presence of Mr. E. J. Lambart, of Paris. Was enabled to see the interior of the larynx. General health improving, takes more food and eats better; is not so low nor so thin as she was, and feels less pain.

13th.—Has still some pain in the left ear, extending from the throat. Nothing is to be seen at the back of the mouth on depressing the tongue with a depressor. During cicatrization of the wound a small projection, about the size of a large bean, slipped round, apparently from the right edge of the epiglottis, on to the surface of the cartilage. This I removed with my small laryngeal *écraseur*, and it came away in the loop of the wire; some bleeding followed. Afterwards I passed a probang down the *œsophagus* and found no stricture.

A small projection, about the size of a walnut, exists in the neck, externally, over the right side of the larynx, below and to the right of the cricoid cartilage. This had been present since she was nine years of age; it was rather hard, and at one time was supposed to cause stricture of the *œsophagus*.

15th.—She looks and eats better, but requires her food to be cold; has some slight soreness in swallowing. The wound and surrounding parts possess a good natural pink colour, and retraction is occurring forwards. Could see in the laryngeal mirror both arytenoids acting well, and nearly saw the larynx. Applied a solution of the nitrate of uranium. Has still a little cough at night, which is wholly epiglottic.

As she was to leave for home on the 17th, I prescribed a soothing and astringent gargle, with an excess of alum, to be increased if necessary, at the discretion of her ordinary medical attendant.

The tumour was examined by Dr. Andrew Clark, to whom I am indebted for the following note :

"The growth is essentially a connective tissue, though it contains other elementary textures, and is intensely vascular. The chief part of the tumour consists of an amorphous or slightly fibrillated stroma, containing branching and anastomosing connective tissue, corpuscles, nuclear fibres, and free nuclei; at one or two points the corpuscles are few; the matrix very abundant, soft, and infiltrated with a mucous fluid. At several other points, where the stroma is abundant, immature cartilage-corpuscles are present. Associated with these, but in a disorderly manner, are bits of muscular fibre, disintegrated racemose glands, and patches of cylindrical epithelium. The growth is unquestionably benign. In its present condition it may be called a connective-tissue growth. But that condition is not necessarily final; in fact, it is embryonic, and the elements entering into its composition might have become developed into any other growth. Most probably, however, it would have been a fibro-cartilaginous one. The question of its return is to be answered according to the completeness of the removal of the growth. If a considerable portion has been left it will in all probability, not only return, but return under the form of some higher structural development; but if it has been nearly all removed then the chances of complete recovery are great."

Figs. 3 and 4 (see woodcut, p. 5) show the microscopic appearances of the tumour examined by Dr. Clark, from the centre and edge of the section.

Commentary.—The dysphagia had been present on and off for two years, gradually increasing in its progressive severity, until at last but very little food could be swallowed. This, associated with great pain and bloody expectoration, led to the impression that there might be malignant contraction of the œsophagus, an impression which was strongly favoured

by the difficulty, if not impossibility (as I learnt), of passing a bougie. This is intelligible when the nature of the obstruction is considered, for the presence of a body of such a magnitude as that described, by its mere size and the spasms which it would excite, would effectually close that part of the pharynx immediately contiguous to it, and thus effectually bar the entrance of any foreign body introduced for exploration, just as it would food.

Although the presence of the growth had become known, yet the belief had been entertained that a stricture might be present as well, an opinion partly favoured by the swelling in the external part of the neck. Taking all things into account, I believed that there was no stricture, chiefly from the fact that even comparatively slight lesions, such as ulcers and moderate infiltration or inflammation of the epiglottis, are apt to cause troublesome dysphagia. Yet here was a large amount of disease to give rise to it.

Being satisfied in my own mind that disease of the epiglottis was the chief exciting cause of the dysphagia, the next step was to estimate the amount and extent of that disease, and to consider whether it was remediable by art or otherwise. Ordinary inspection furnished a certain amount of information, which was much increased by inspection with the laryngoscope. It was demonstrated to satisfaction that the epiglottis, and it alone, was the seat of the disease, commencing, as it were, in the valve, from its point of attachment to the tongue. The larynx was proved to be intact above the glottis by the character of the speech (phonation), which, although guttural and thick, was not in any manner laryngeal, *i. e.* emanating from a constricted or impaired glottis or larynx. There was at no time positive dyspnœa, unless from dorsal decubitus at night, when the pendent valve would, almost from its mere weight, close up the aperture of the larynx, and thus give rise to cough and bloody expectoration. There was fortunately no evidence of malignity, either in its appearance or otherwise; and although there was some expectoration of blood and mucus, the friction to which the part was subjected, together with the vascular and spongy nature

of the growth itself, would necessarily give rise to both. All my efforts, by inducing cough, hemming, forcible expiration, pressure on the tongue, or otherwise, failed in permitting of a view of the interior of the larynx. The diagnosis, nevertheless, was pretty clear, and the course to be pursued was obvious. Here was a growth whose nature and position were tolerably made out: what was to be done with it? The plan of its removal by caustic, Paris or Vienna paste, or, indeed, by any other mode short of detachment with a loop of wire, could not be entertained. Time and the condition of the patient, who was already becoming much emaciated, were both against mere local treatment. Indeed, there could be no doubt as to the propriety of removing the tumour, and its removal was determined upon after carefully weighing the risk and responsibility attaching to the separation of the whole of the free portion of the valve as far as its connection with the tongue. This measure was contemplated with a little anxiety, for reasons that must be obvious; but my anxiety subsided when I remembered that the cartilage had been shot and cut away, with full power over swallowing remaining, and that deglutition was compatible with an absence of the free portion of the epiglottis, as experience had demonstrated to me in seven patients, five of whom are still living. As the general health was otherwise good, no time was lost in carrying this out, and an instrument was extemporaneously devised for the purpose of snaring the growth, and at once cutting it off, as I had already done on eleven previous occasions within the larynx. Weiss and Son supplied me with the instrument used, and which consisted of a long canula (slightly curved at one end) and handle, employed, indeed, for another purpose, but excellently suitable for the object intended. A very thick twisted wire was introduced through the canula, allowing of a loop at the terminal end, capable of enclosing a good-sized walnut. The only objection I had to it was the extreme length of the canula, and the necessity of using both hands when the epiglottis and its tumour were snared. At the proper time, however, it was found to answer, as already

detailed in the narrative of the case, and effected its object most satisfactorily, producing exclamations of surprise and delight from those who were present, at the celerity with which it did its work. When it was found that the growth alone was removed and the epiglottis remained intact, the question arose of how this could have been accomplished, for here was the lingual surface exposed as cleanly as if partially dissected off with a scalpel. There are two modes of solution that I would offer to this problem, for I can call it nothing else. One is, that the growth, from the constant efforts of deglutition, had become partly movable upon the epiglottis; and the other, that there was a sulcus or groove at the posterior part, between the growth and the proper edge or margin of the valve. I am disposed to believe in the first, although it is more than probable that the second was a corollary to the first. And what perhaps strengthens this view is that the structure and consistence of the tumour were much softer than that of the cartilage left behind, although some of the latter structure was found to enter into its formation as well.

The general health began to improve, cicatrization was remarkably speedy, the dysphagia disappeared as soon as all tenderness of the raw surface subsided, and, as I had anticipated, there was no contraction, which was proved by the passage of a bougie without obstruction or difficulty. The remaining point for consideration was the ultimate result. Is the nature of the tumour so benign as to lead to the supposition that it will not return? Upon that I dare not venture an opinion, but shall hope for the best. If the surface of the wound has completely shrivelled up by the various applications used, it is probable that an immunity may be the result. At any rate, and under all the circumstances of the case, everything was done which our advancing knowledge of the diseases of the throat suggested.

Appendix.—She continued in fair health, and swallowed tolerably well, until about the middle of April, 1865, when deglutition was attended with coughing and choking, and the voice became weak and throaty. She came to London,

and on the 26th of April I examined her throat, and discovered a fleshy looking growth, the size of a small walnut, springing from the left half and edge of the lingual surface of the epiglottis. The base of attachment was not large, but the tumour gave rise to expectoration of blood and mucus. The right half of the epiglottis, although thickened, had somewhat regained its normal appearance. In addition to the tumour in the throat, another, hard, tense, red, and immovable, had been growing in the left sterno-mastoid muscle, low down, the size of a small hen's egg, having commenced four months previously. A similar one was appearing in a corresponding situation in the opposite muscle. She was pale and thin, and, as she now swallowed very little food, the removal of the growth was determined upon to get rid of the mechanical impediment to deglutition, although now there could be no doubt that the character of the original disease had changed to one of a malignant nature. Its removal was accomplished on the 28th, at 10 a.m., in the presence of Mr. Ure, Mr. W. F. Teevan, Dr. Althaus, and Mr. J. G. Randall, by the same means and appliances as were adopted on the first occasion. With the aid of my left index finger, the thick wire of the *écraseur* was passed around the growth, and on pulling it home the upper half was cut off. The instrument was reintroduced, and the wire well applied to a groove at its base, and the remainder was snared and cut off, the consistence of the base being much firmer than the upper or spongy part. Very little bleeding followed, and swallowing and speaking were at once improved, and subsequently continued good. The two pieces of tumour, when placed together, equalled the dimensions of a small walnut. She now gained health and strength, and left London for her home on the 9th of May. On examination of the tumour Dr. Andrew Clark found it to consist partly of an ordinary epithelial growth, but mainly of epithelial cancer. From the characters of the cells, especially their possession of vacuoles and vesicular nuclei, from the disorderly manner in which they were heaped together, and from the absence of every indication of development as distinguished from growth, he was of opinion that,

unless the incision by which it had been removed extended beyond the limits of the growth, it would return either in the cut surface or textures immediately adjacent. Indeed, his written opinion was that it would return under any circumstances; the relief, therefore, afforded by its present and second removal can only be temporary.