SOFT FIBROMA OF THE LARYNX AND NECK, REMOVED BY EXTERNAL OPERATION, WITHOUT OPENING THE CAVITY OF THE LARYNX.

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THE patient whose case forms the subject of the following communication was twice shown—on March 9th, 1898, and on June 2nd, 1899—to the Laryngological Society of London, and her case was made the subject of a further communication on June 3rd of the present year. If, nevertheless, the case be now—that is, after operation and microscopic examination have fully elucidated its nature—put on record in its entirety, this course appears to be justified by the extreme rarity of and the exceptional interest attached to its clinical history, its histological nature, and to the very unusual operation that was ultimately performed. It is, in fact, the first case, so far as I know, in which a pure soft fibroma has ever been observed to have involved simultaneously the larynx and neck, and the second on record in which a partly intralaryngeal tumour has been removed without the laryngeal cavity having been opened. Its history is as follows:

The patient, a married lady, aged 40, was sent to me on March 7th, 1898, by Dr. Harrison, of Chenies Court, S.W. She formerly lived in the North-West of Canada, and up to about 1888 enjoyed good health, except that she sometimes suffered from slight "spasms in the throat." These seem to have preceded all objective signs of her throat trouble. In 1888 she first observed a swelling in the left submaxillary region, which gradually grew until, in 1893, when I first saw the patient, it had attained the size of an average walnut. At first it gave no discomfort, and, more particularly, caused no difficulty in breathing or any disturbance of the voice. In spring and autumn it used to swell, but always returned to its previous size. Gradually it became tender on pressure and her breath became permanently short, whilst the previous attacks of spasm of the throat increased in severity. She went to Montreal and consulted Dr. Major, who found not only the external growth but additionally discovered a tumour in the larynx. The patient states that he attempted to puncture the latter, but did not strike fluid. He also endeavoured, according to the patient's statements, to snare the laryngeal growth, but the snare broke. Dr. Major, who had apparently never seen a similar growth, then recommended the patient to go to England, and to take further advice. She accordingly went to London in 1891, and was treated in a special hospital. Her medical attendant, she states, attempted to snare the intralaryngeal growth off with the galvano-caustic snare, but only brought off a very small piece of the growth, whilst during the attempt her throat and tongue were severely burnt. Three weeks afterwards her difficulty in breathing had increased to such a degree that tracheotomy had to be performed. This was followed by immediate relief of the breathing and very great improvement in general health, the patient having previously, according to her description, wasted away to a skeleton. The little piece of growth removed was stated by her attendant to have been of a malignant nature—indeed, of a cancerous character. No further attempts were made to interfere with the laryngeal growth, and the external swelling was never explored.

In 1896 the external swelling again increased so much in size in the spring, and gave the patient such discomfort, that she returned to her medical adviser, who is stated to have thought that there was fluid in it, but that he did not want to perform any further operation unless it was absolutely necessary. No further steps were then taken. Shortly before the patient came to me there had again been some increase in the external swelling, with a good deal of shooting pain in the throat, extending to the jaws and to both ears. All this had improved when I first saw the patient. She had not recently lost flesh, and had never had any dysphagia. Her voice was so surprisingly clear and strong, although she still wore her tracheal cannula, that the history, as given above, was listened to with a certain amount of incredulity. The result of the objective examination, however, fully confirmed the patient's statements. Externally, the small tumour in the left sub-maxillary region was tender to the touch, and any pressure on it, unless extremely gentle, each time caused immediate retching and coughing. It could, however, be ascertained that it was not adherent to the skin, and

somewhat mobile in various directions, although it seemed to be fixed to something very low down. There was no enlargement of lymphatic glands in its neighbourhood. On laryngoscopic examination, a very surprising condition was seen. Whilst from the almost normal voice one would have expected a correspondingly normal aspect of the larynx, it was seen that almost the whole laryngoscopic image consisted of an enormous tumefaction of the left half of the larynx, which in front extended to nearly the free border of the epiglottis, and behind to the left arytenoid cartilage. All the corresponding parts of the larynx within that region seemed to have perished, as it were, in this smooth round tumefaction, which was covered by apparently normal but very pale mucous membrane. Or the epiglottis itself not much more than the free border could be seen, which was twisted so that the epiglottis looked towards the right. From this small remnant of normal configuration posteriorly both on the dorsal and vertical aspect, the tumefaction on the left side began, which involved the left ventricular band, the arytaeno-epiglottidean fold, and arytaenoid cartilage. To the right of this tumefaction a small chink remained, bordered on the right side by the right ventricular band. Neither of the vocal cords could be seen, and it could only be concluded from the integrity of the voice that the left vocal cord itself could not be involved in the process. The right arytaenoid cartilage moved well; the left half of the larynx was almost immovable. On touching the tumefaction with the probe, a feeling of elastic resistance was encountered, similar to that experienced on pressing upon the external tumour. The accompanying drawing

Fig. 1.—The laryngoscopic image in March, 1898.

(Fig. 1), kindly sketched at the time for me by my friend Mr. Ernest Waggett, gives a very good idea of the appearance of the larynx at that time.

The patient was shown, as already mentioned, on March 9th, 1898, to the Laryngological Society of London, with a view of eliciting opinions on the nature of the most uncommon condition described, the like of which I had never seen or heard of before. An animated discussion followed the demonstration, in which very varying views were expressed as to the nature of the tumour.

Dr. David Newman of Glasgow said that the laryngeal tumour looked like a sarcoma, but that the long history was somewhat against this suggestion, and that it was a fibrous or fibro-cystic growth.

Dr. Scanes Spicer thought that the tumour was encapsuled, and that if the mucous membrane were divided it would shell out.

Mr. Charters Symonds found difficulty in deciding what the relation of the outside to the inside tumour was. He thought, however, that the case might be surgically attacked, and without any great danger.

Mr. de Santi, although very uncertain of the nature of the tumour, inclined to the opinion that it was a slowly-growing fibro-sarcoma, and that the history of eight years' duration was not incompatible with the diagnosis of sarcoma.

Mr. Butlin thought that possibly the tumour was glandular in nature, and might be an extension or outgrowth of the thyroid gland. He pointed out that the external tumour moved with the hyoid on swallowing. He thought that an operation for removal might be attempted and with a prospect of success.

Personally, I was not much in favour of operation at that time, seeing the uncertainty of the nature of the tumour and

of the mutual relationship of the external and internal growths, and the probability that the external growth was apparently, as shown by the violent reflex symptoms arising when handling it, closely connected with the vagus. I therefore preferred watching the case a little longer before advising the patient, who was herself anything but favourably disposed to further operative measures, to submit to such.

The case was shown again on June 2nd, 1899, to the Laryngological Society, simply to show that the condition had remained absolutely *in statu quo*. No further opinions as to its nature were elicited on that occasion. During the next few years I saw the patient periodically at long intervals. No further changes took place during that time either in the subjective or objective symptoms.

In 1900 Professor Paul von Bruns, of Tübingen, kindly sent me a reprint of his contribution to the *Handbuch der Praktischen Chirurgie*, edited by Professor E. von Bergmann, himself, and Professor von Mikulicz, in which on page 104 I found the following description of an apparently analogous case, which I reproduce in verbatim translation.

Probably the removal of a laryngeal tumour by submucous shelling out from without, without opening the laryngeal cavity, such as I was able to carry out in the following case, might be regarded as a unicum. In a boy of 13, who had suffered for one year from hoarseness and difficulty of breathing when moving about, a tumour occupying the whole left side of the larynx was found, with smooth pale-pinkish surface formed by normal mucous membrane. This tumour extended in front to the middle line, and projected so as to fill the left half of the laryngeal cavity. The left ventricular band and the left ventricle of Morgagni had entirely perished in the tumour; nothing could be seen of the left vocal cord, whilst the right vocal cord showed normal condition and mobility. In addition, externally on the left side of the neck, corresponding to the lower border of the thyroid cartilage, a mobile dense tumour of the size of a hazel nut could be felt. The diagnosis was doubtful between an intralaryngeal and extralaryngeal goitre and a cyst, but when the internal tumour was punctured no fluid escaped. Tracheotomy was first performed, and a cannula introduced. After this the external tumour was dissected out from its surroundings, and it was found that a thin filiform pedicle extended from it below the lower border of the thyroid cartilage, and represented the connexion between the external and the internal tumour. By means of energetically lifting off the lower border of the thyroid cartilage, I succeeded in bloodlessly ("stump") shelling out the internal tumour, which was the size of a bean, without perforating the mucous membrane. Complete cure. Microscopic examination showed a fibro-myo-lipoma.

As this description was on all fours with the conditions seen in my own case, I informed the patient that a case quite similar to her own had been observed and successfully operated upon, and now advised a similar operation in her own case. The patient, however, who at that time suffered no distress whatever, refused operation. Very characteristically, it was more her fear that she would be unable to live without her tracheal cannula, which she had then worn for more than twelve years, and which, in the event of the operation proving successful, I of course proposed to remove at the same time, than the fear of the operation itself, which prompted her refusal.

At the commencement of 1904, however, fresh symptoms made their appearance. The patient, whom I had not seen for about two years, came again to see me on May 14th, nominally because she had recently had a cold and her throat was very sore. In reality, however, it was evident that matters had been getting worse during the last two years. She had had running from the eyes, her conjunctivae were inflamed, and there was very much increased salivation, which greatly troubled her. On laryngoscopic examination, the swelling of the left half of the larynx was seen to have greatly increased, and the form of the epiglottis was now completely lost. The external tumour was only slightly larger than it had been, but on external pressure the retching and coughing, which had formed so characteristic a feature of the case on former occasions, were even more accentuated. There could not be any doubt, I thought, that the tumour in its further increase of size was beginning to irritate the sympathetic, and that the epiphora and ptialism were due to that cause. I again strongly recommended operation, and this time the patient consented.

The operation was performed on June 3rd, 1904, with the assistance of Mr. Stabb and in the presence of Drs. McBride and Law and Mr. Waggett, Mr. Tyrrell giving the chloroform. I exactly followed Professor von Bruns's plan—that is, I cut down upon the external tumour, dissected it out from its vicinity, and found at its distal end a thin, partly thread-like, pedicle, which I followed up as far as possible. The tumour, however—which in parts was extremely friable—broke during its removal into three pieces, which were

removed without difficulty. In this case the tumour, which consisted of a number of yellow lobes and lobules, and was in its entirety fully as big as a medium-sized plum, entered the larynx not below but above the thyroid cartilage, between it and the hyoid bone. Both portions of the internal tumour—that is, the anterior one, which extended below the mucous membrane covering the epiglottis, and the lateral one, which occupied the region of the left ventricular band and the ventricle of Morgagni—were shelled out by means of the finger; and, in order to be sure that every particle of growth had been removed, Dr. McBride inserted his finger through the patient's mouth, until, having arrived in the interior of the larynx, it touched my own forefinger, introduced through the external wound, nothing being between the two fingers but the mucous membrane of the larynx, which could be preserved entirely intact. The mucous membrane forming the internal lateral wall of the very big cavity, which remained behind after removal of the tumour, was stitched to the adjoining tissues, as during inspiration it was strongly sucked inwards, and as it was feared that it might thus cause a fresh form of obstruction. The external wound was then closed in its entire length, only a small drainage tube being left in its deepest part. After completion of this operation the tracheal tube, which the patient had worn nearly thirteen years, was removed; the wall of the tracheal opening, which was lined with skin for a considerable distance inwards, was pared off entirely by a circular incision round the tracheal opening, and was subsequently dissected out, the funnel thereby remaining being temporarily closed by clamp forceps. Finally, preliminary horsehair ligatures were passed through the opening of the tracheal wound, but not closed. The clamp forceps was left in position until the following day in order to insure, in the event of dyspnoea arising, a reintroduction of the cannula. The tumour was shown the same day to the Laryngological Society of London, and a short description of the operation given.

Fig. 2.—The laryngoscopic image in November, 1904.

The patient's recovery was absolutely uneventful and very rapid. The temperature remained perfectly normal throughout. There never was any dyspnoea. On the day after the operation the external wound looked well, and there had been so little secretion that the drainage tube was entirely removed. The tracheal wound also looked first-rate; the part secured by clamp forceps was cut off, and the tracheal opening, after previous application of iodoform and boric acid, permanently closed. The patient got up on the second day after operation, and within one week left the home. She has remained well ever since, with the exception of occasional nocturnal spasms in her throat, which I believe to be of purely neurotic character.

The laryngoscopic appearances are at present as follows: The epiglottis has almost completely returned to its normal shape with the exception of its being uniformly and slightly thickened. The right half of the larynx, which can now plainly be seen, is perfectly normal in appearance and mobility. The left vocal cord is still obscured—except on phonation, when occasionally a glimpse of it may be obtained—by the somewhat thickened left ventricular band, and the left aryepiglottic fold also appears still somewhat enlarged. The last-named two features are easily explained by the enormous distension which these lax structures have suffered for so many years by the big tumour which developed beneath them, and which stretched them to such a degree that a complete *restitutio ad integrum* was probably impossible. The

left arytenoid cartilage, however, moves perfectly well. The present condition of the larynx is very faithfully represented by the second sketch, for which I am indebted to Mr. E. Waggett. The patient's voice is quite natural, and she can even sing.

Of the tumour, which is shown in natural size in Fig. 3,

Fig. 3.—The tumour after removal, natural size, reconstructed. The piece on the right-hand side lay outside the larynx; the upper transverse piece, connected with the former by a long pedicle, caused the swelling of the epiglottis; the piece below this occupied the left arytaeno-epiglottidean fold.

Mr. S. G. Shattock, F.R.C.S., kindly gives the following description:

"A TUMOUR OF COMPLEX FORM REMOVED IN THREE PORTIONS.*"

"The smallest elongated piece, mounted on the right hand side of the preparation, lay on the thyro-hyoid membrane through which the narrow anterior end passed so as to be continuous with the portion which is mounted highest; the latter lay beneath the mucosa of the epiglottis, and was itself continuous with the third and largest of the three portions, which occupied the right ary-epiglottic fold.

"Of the medium-sized piece of the three, microscopic sections were cut in the direction of the larger axis, and in a plane corresponding with the flatter side, the sections including about half of the mass.

"The structure as so shown is fairly uniform and typical of a soft fibroma (Fig. 4).

Fig. 4.—Microscopic section taken from the extralaryngeal portion of the growth, showing the typical structure of a soft fibroma.

"The tissue varies somewhat in closeness in different fields. Where closest it consists of closely apposed intersecting

* The specimen is now in the museum of the Royal College of Surgeons (No. A 3,502).

bundles of delicate wavy connective tissue; amongst the fibres of these, connective tissue cells are scattered in conspicuous numbers.

"In others spots the texture of the intersecting bundles is less compact, the groups of their component fibres being separated or disparted, yet still interconnected by delicate fibrils pertaining to the bundles themselves. These differences are to be ascribed to the presence of a varying amount of oedema.

"In the oedematous tissue clusters of lymphocytes occur, in addition to the other cell forms. Well-developed arterioles ramify in the new formation. There is no fat in any of the sections examined, nor are any nerve fibres discoverable.

"The elongated form of the tumour and the fact that it has tracked through the thyro-hyoid membrane suggest its possible source in the internal laryngeal branch of the superior laryngeal nerve, and I therefore further examined transverse sections of the narrowest of the three pieces—namely, that which perforated the membrane named. These sections, however, show only intersecting bundles of connective tissue, as already described, and nowhere any medullated nerve fibres.

"Although no evidence is forthcoming that the growth is a neuro-fibroma, it has, nevertheless, probably tracked along the internal branch of the superior laryngeal nerve or the superior laryngeal artery. Whether it was originally extralaryngeal or intralaryngeal is left doubtful by the clinical history.

"There is as yet no record of any similarly-disposed laryngeal fibroma. Of the tracking of connective tissue tumours instances will occur to mind—notably in the case of lipomata, as of those which grow along the spermatic cord from the subperitoneal fat or down the crural canal through the saphenous opening."

REMARKS.

There seems no need for any further commentary upon this extraordinary case than that its histological structure, namely, that of an oedematous fibroma, explains a clinical factor in the case, which had been inexplicable to me until the microscopic diagnosis had been made. I must confess that I had looked with considerable scepticism upon the patient's very positive statement, namely, that the external growth had at various times considerably varied in size, but from the fact that so much serous infiltration is described by Mr. Shattock as existing between the fibrils of the growth, it seems quite possible that the varying size of the external growth, as described by the patient, may have been due to a variable amount of oedema within the tumour itself. Whether the growth began within the larynx or in the tissues of the neck remains, as stated by Mr. Shattock, doubtful from the clinical history, and has not been definitely determined by the histological investigation. But whatever its origin, the case acquaints us with the fact that pure fibromata may simultaneously involve the larynx and the neighbouring parts of the neck, a fact of which no example, so far as I know, has hitherto been recorded in medical literature.

In conclusion, it may be said that the close proximity of the growth to the superior laryngeal nerve fully explains the coughing and retching which immediately occurred whenever the external tumour was handled, whilst no equally tangible cause was detected in the course of the operation for the epiphora and salivation which had latterly formed prominent symptoms of the case. In all probability, however, the belief which was entertained when these symptoms made their appearance, namely, that they were due to irritation of the sympathetic caused by the increasing size of the growth, actually corresponds with the facts.

SOME THOUGHTS ON PLEURISY.*

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ALTHOUGH this subject may be regarded as a well-worn theme, it is, nevertheless, surrounded by questions of considerable difficulty. With all the modern aids in diagnosis, it is still sometimes impossible to determine the causal influences which have produced it; while the attempt to form a forecast of its course is a matter of even greater difficulty. In the remarks which follow the aim of practical utility will be kept in view.

We shall approach the subject of pleurisy from the etio-

* Being the Introductory Lecture of the Mount Vernon Hospital Post-Graduate Course, delivered October 12th, 1904.