INTRINSIC CANCER OF THE LARYNX:

OPERATION BY LARYNGO-FISSURE: LASTING CURE IN 80 PER CENT. OF CASES.*

BY

STCLAIR THOMSON, M.D., F.R.C.P.LOND.,

F.R.C.S.ENG.,

PROFESSOR OF LARYNGOLOGY AND PHYSICIAN FOR DISEASES OF THE THROAT IN KING'S COLLEGE HOSPITAL; PHYSICIAN TO KING EDWARD VII SANATORIUM, MIDHURST.

FEW clinical classifications are more useful than the one made by Krishaber when he suggested that cases of cancer of the larynx may be divided into two groups according to the anatomical site of origin of the disease.¹ He gave the name of "intrinsic cancer" to all cases where the disease is found to start from the vocal cords, the ventricles, the ventricular bands, the interarytenoid region, and the subglottic area. When cancer originates in any other points of the larynx—the epiglottis, arytenoids, aryepiglottic folds, and the pharyngeal surface of the cricoid—Krishaber preferred to call it "extrinsic cancer." Now, this classification is of the greatest clinical importance, for, while extrinsic cancer is, according to Butlin,² "a dire disease," seldom operable, offering only a chance of cure with the generally crippling operation of laryngectomy, and giving a statistical table of lasting arrest which is in no way encouraging, it is quite otherwise with intrinsic cancer. Semon has frequently called attention to the evidence we now possess that there is probably no other region of the body where operation for cancer can show anything like the satisfactory results that can be obtained when the disease occurs in the interior of the larynx and is removed by laryngo-fissure. His own practice shows a lasting cure in 80 per cent. of his cases.³ I imagine that the statistics of operation for epithelioma of the lips may show a better result; but I believe that when any other region, and particularly an internal organ, is attacked with this dreadful disease, no such hopeful prospect can be entertained.

In spite of the pioneer work performed by Butlin and Semon in this country, and carried on by Chevalier Jackson, Moure, Schmiegelow, Chiari, Koschier, and others abroad, it is regrettable that many members of the profession still fail to appreciate what can be done for the cure of cancer when it attacks the interior of the larynx. It is deplorable to note how often cases fail to present themselves until the intrinsic disease has been allowed to spread until it became extrinsic, and too extensive to be operable. Such extrinsic cases are certainly more common in the out-patient room, yet Semon says that of the two classes of laryngeal cancer the intrinsic form is the more common. In 212 cases seen by him the cancer was intrinsic in 136, and extrinsic or mixed in 76. Taking only his male patients, the divergence was more marked—namely, 124 intrinsic compared with 53 extrinsic—for it is well known that the extrinsic is the more common form in women. Chevalier Jackson's careful figures show that the more hopeful form (that is, intrinsic) is more frequent in the proportion of 98 to 43.⁴

One reason why statistics and reports of cases are not more frequently forthcoming is that they do not come to the laryngologist until, in many cases, they are too advanced for operation. A second reason is that cancer in the larynx is not a common disease; Semon, whose experience was very extensive, saw 212 cases in private patients in twenty-eight years, and of these 136 were intrinsic. He rightly claims that, with Butlin, he had been fortunate in having exceptional opportunities of treating laryngeal growths surgically, yet his gratifying results were obtained on a record of only 25 laryngo-fissures for cases microscopically verified as undoubted malignant growths.

This comparative rarity of intrinsic laryngeal cancer is the second reason which helps to explain why, this evening, I cannot submit the results of more than ten cases. But our records will continue to deal with comparatively small numbers until the public and the profes-

sion realize the importance of early diagnosis of every case of persistent hoarseness, and see, from such gratifying results as these I am now able to submit, that intrinsic cancer of the larynx is one of the most favourable manifestations of malignant disease, allowing of a lasting cure in a very large majority of cases submitted to the laryngologist for suitable operation.

Cases.

The ten cases were operated on between the years 1900 and 1910—a period of ten years. I give the abbreviated notes of them in chronological order:

CASE I.

Mr. W. T., aged 47. April 23rd, 1900: Huskiness for three months. Limited, non-ulcerated thickening of middle third of right vocal cord, which moved freely. By August 4th the thickening was more defined—a distinct truncated cone with a cornified, white extremity. Although cords moved freely and no glands could be felt, the suspicion of a malignant growth was now confirmed and endorsed by Sir Henry Butlin, who operated on August 14th, 1900. I saw the patient again in June and July, 1901, when his larynx was absolutely free from any recurrence of the disease. He was last seen by me on January 9th, 1902, when he presented himself with a gland the size of a pigeon's egg below the angle of the left jaw. The area of the left lingual tonsil was enlarged, congested, and very hard to the touch. His larynx was still quite clear—that is, seventeen months after operation. Hearing subsequently of his death, I wrote to Sir Henry Butlin, and received the following letter:

"1st July, 1904.

"My dear Thomson,

"I have no intention of publishing the case separately, and I should be very pleased indeed that you should do so.

"The operation, as you say, was on August 14th, 1900, and consisted in (something more than) the complete removal of the right vocal cord for an ulcerated epithelioma, which extended along almost the entire length of the cord, up to and just beyond the commissure. The disease was proved by microscopic examination to be epithelioma, and I think I still have the sections; indeed, I am sure I have them.

"In December, 1901, he came to me on account of an enlarged, hard, and fixed gland behind the angle of the jaw, on the left side, and I found that it was associated with induration, undoubtedly malignant, of the left border of the tongue, about, but a very little in front of, the lingual tonsil. The larynx was quite free from disease.

"You saw Mr. T., I think, about the same time, and formed a similar opinion of his case; and we both held the view that it was not a suitable case for operation.

"He came to see me at rare intervals; and I received a letter from his wife in 1903, telling of his death on the 26th of June of that year. . . . The larynx remained free, as I always found it, up to the time of his death, so far as any recurrence of the original epithelioma is concerned.

"Of course it is very disappointing that he should have suffered from, and succumbed to, an attack of similar disease in another near organ of the body.

"Believe me,

"Yours very truly,

"HENRY T. BUTLIN."

CASE II.

Mr. C. S., aged 49. September 20th, 1900: Huskiness for two years. The right vocal cord was entirely replaced by a dull red, ovoid, irregular growth, and the right side of larynx was quite immobile (Figs. 1 and 2). The diagnosis of epithelioma was clear, and was confirmed by both Sir Felix Semon and Sir Henry Butlin. October 10th, 1900: Operation, with the assistance of Mr. F. Stabb and Dr. F. Ford, chloroform being ad-

Fig. 1.—C.S. II. Dull red, ovoid, irregular growth replacing right vocal cord, which is fixed in cadaveric position.

Fig. 2.—The same larynx, showing complete immobility of right cord during phonation.

ministered by Mr. Bellamy Gardner. Small gland met with in front of crico-thyroid membrane. Hahn's tube employed. All the right cord, with a good margin, was removed back to the processus vocalis, and the anterior portion of the left cord was also removed. The patient was able to swallow in twenty-

* Paper read before the Medical Society of London on February 12th, 1912.

four hours, and at the end of forty-eight hours sat out of bed. Dr. Jobson Horne reported that the growth was a carcinoma, but that the removed portion of the left cord and the small gland were free from disease. Later on there was some compensatory thickening in the ventricular band on the operated side, and on June 3rd, 1901 (eight months after operation) the patient saw Sir Henry Butlin, who agreed that there was no suspicion of recurrence of malignant growth, nor was there any when I last saw the patient on November 18th, 1901, more than a year after operation. He wrote to me from Scotland in January, 1902, to say that as he was keeping well and suffering no inconvenience from his throat he had thought it unnecessary to call and report himself. I heard that he died suddenly in February, 1902, but beyond a statement that he had spasm of the glottis, I could not obtain satisfactory details.

CASE III.

J. K., aged 48, attended King's College Hospital on October 9th, 1903, for hoarseness of thirteen months' duration, due to a greyish, dimpled, sessile growth, occupying the anterior two-thirds of the left vocal cord (Fig. 3). A small gland existed below the angle of the right jaw. As the patient had been treated successfully in the Victoria Park Chest Hospital in 1893 by Dr. Heron with Koch's tuberculin, it was generally thought by members of the Laryngological Society of London that the case would prove to be tuberculous, although there were no other symptoms beyond arrested phthisis. It was not until July of the following year (that is, 1904) that the increase

Fig. 3.—Case III. Epithelioma of vocal cord.

of the growth, the infiltration of the cord, and the consequent interference with its movements, made me conclude it was an epithelioma. It is worth noting that the patient was kept under observation for nine months before the diagnosis was settled and had been hoarse for thirteen months previously. This long period of twenty-two months shows how slow the progress may be in the early stage of intrinsic cancer of the larynx, and also how difficult the diagnosis may be.

July 12th, 1904: Laryngo-fissure under chloroform (Fig. 4). Hahn's tube was used. The portions removed showed well-

Fig. 4.—Case III. Two life-size drawings of the growth removed by laryngo-fissure.

marked epithelioma, the tissues being so deeply infiltrated that from the purely pathological point of view the outlook would not be favourable.

Six weeks later a small thickening was noticed in the anterior commissure. As this developed into a pale, pedunculated growth, the size of a pea, it was removed with intralaryngeal forceps, and under the microscope proved to be a granuloma (Fig. 5). The patient's case is further reported in the *Proceed-*

Fig. 5.—Case III. Granuloma in anterior commissure during convalescence.

Fig. 6.—Case III. After operation. Showing new cicatricial and quite fixed left cord, with compensatory hypertrophy of left ventricular band.

ings of the Laryngological Society of London for January 13th, 1905. He has successfully come through attacks of influenza,

bronchitis, and pneumonia, and a fairly good voice has enabled him to carry on his occupation as a baker in the East End (Fig. 6). He has now been seven and a half years free of recurrence of cancer.

CASE IV.

Sir W. D., aged 49. October 9th, 1906: Voice had been husky for six months. History of Jues. No enlarged glands. The whole of the right vocal cord was replaced by a red, rough, irregular, ulcerating, mulberry-surfaced growth, which mechanically prevented complete approximation of the cords, although the intrinsic movements on the affected side did not at first appear to be interfered with (Fig. 7). However, at the end of a month, during which time the patient was submitted to anti-syphilitic treatment, the mobility of the right cord was failing, and the diagnosis of epithelioma was then confirmed by both Sir Felix Semon and Sir Henry Butlin. November 8th, 1906: Operation by laryngo-fissure, assisted by Mr. A. H. Buck of Brighton and Mr. E. Stabb, chloroform being administered by Dr. J. F. W. Silk. Hahn's tube was employed. Dr. Emery reported that the removed growth was an epithelioma

Fig. 7.—Case IV. Epithelioma of larynx.

with unusually malignant appearances. About eight weeks after operation the patient expectorated two pieces of bone, evidently ossified cartilage from the margins of the incision in the thyroid plate. The patient made a good recovery, and resumed an active life with a good strong voice. But in July, 1907 (that is, eight months after operation), there was a decided recurrence. As at that time I had just lost a nail from a septic right forefinger, Sir Felix Semon kindly made an exploratory laryngo-fissure, but found the growth had invaded both thyroid alae, and was no longer suitable for laryngo-fissure. The case was then transferred to Mr. Burghard, who excised the whole larynx on August 14th, 1907, but the patient died of recurrence on July 15th, 1908, one year and eight months after his first operation.

CASE V.

C. L., aged 54, was admitted to King's College Hospital on October 4th, 1907, with partial loss of voice for over a year. The left vocal cord was entirely replaced by a nodular growth, greyish and white in parts, and in the anterior commissure

Fig. 8.—Case v. Epithelioma. Laryngo-fissure entirely under endrenine. Growth found to extend to anterior two-thirds of right subglottic region. Both vocal cords completely removed and part of right ala.

there was a granulation strongly suggestive of perichondritis from invasion of the thyroid ala. The left side of the larynx was quite immobile. The condition is well shown in a coloured drawing which I was fortunate enough to have had made. No glands were felt (Fig. 8). October 17th, 1907: The operation of laryngo-fissure was carried out entirely under local anaesthesia with eucaine and adrenalin (endrenine). Hahn's tube was not used. All the left cord and the soft tissues in the left half of the larynx were removed. As the disease was found to extend along the lower surface of the opposite side, the right vocal cord was also removed, except for the portion attached to the vocal process. As the condition of the thyroid cartilage itself was suspicious, a portion of it on each side of the commissure was clipped away. Owing to the extensiveness of the operation the tracheotomy tube was left in for eighteen days. The patient was fed by the mouth at the end of twenty-four hours, and at the end of a week he was eating solid food. The microscope showed the disease to be an epithelioma. The patient is able to earn his own living. He has no stridor even in sleep, in spite of the very free removal of his vocal cords; he reports that he may be a little short-winded on exertion. He speaks easily and loudly with a strong, harsh voice, and this voice is apparently produced by the vibration of the aryepiglottic folds. The patient was shown before the Clinical Section of the Royal Society of Medicine on February 11th, 1910. He has now been four years and four months without any recurrence of the disease.

CASE VI.

Mr. R. B. E., aged 59, was sent to me by Mr. R. C. Priestley in January, 1909. The patient had been hoarse continuously for three or four months, but voice had not been good for two or three years. On the middle third of the left vocal cord there was a papilloma-like, irregular, greyish growth, and the cords moved freely (Fig. 9). There were no enlarged glands. The

Fig. 9.—Case VI. Epithelioma of larynx.

growth was removed endolaryngeally and completely, and sent for examination to Dr. Eastes's laboratory. The report of Dr. Cuthbert Lockyer was that the microscope showed it to be a squamous-celled carcinoma, and this was confirmed by Mr. Shattock. Sir Henry Butlin examined both the growth and the patient, and strongly advised operation.

February 17th, 1909: Operation, assisted by Messrs. Gilbert Smith,

Irwin Moore, and E. Stabb, chloroform being given by Mr. Walter Tyrrell. Laryngo-fissure; no Hahn's tube was used. The left vocal cord with surrounding soft tissues was raised on its perichondrium from the inner surface of the thyroid cartilage and removed *en masse*. Tracheotomy tube was removed at the end of the operation. The microscopic examination of the removed portion confirmed the original diagnosis of epithelioma. The patient was fed by the mouth from the first day. Six weeks later an oval, pale, smooth growth about the size and shape of a small bean was removed from the anterior third of the newly-formed cicatricial left vocal cord. Under the microscope this was shown to consist of granulation tissue, with a tiny strip of degenerated epithelium which was quite benign.

The patient's voice is so satisfactory that he has been able to resume his profession of a schoolmaster. He smokes and is in good health. Three years have now elapsed without any trace of recurrence.

CASE VII.

Mr. J. S. P., aged 43. When this patient consulted me on February 13th, 1909, his voice had not been strong for a year. The right vocal cord was replaced by an irregular, slightly warty infiltration in its whole length, the posterior two-thirds being whitish. The cord moved, but not freely. There were no glands. The patient had a very hoarse, stenotic voice. He was also seen by Sir Henry Butlin, who wrote that "it ought to be much more widely cut out than in your preceding case. It is not a nice-looking growth, so I would go wide of it at each end."

February 25th, 1909: Laryngo-fissure, with the assistance of Messrs. Stabb, Moore, and Bedell Stanford. Chloroform was given by Mr. Walter Tyrrell. The entire right vocal cord and all the soft parts on the same side were raised or the perichondrium, and peeled off the inner surface of the thyroid cartilage. No Hahn's tube was employed, and no tracheotomy tube was left in. The microscopic examination of the removed growth showed it to be an epithelioma. The patient made a rapid recovery, and returned to playing lawn tennis and riding a bicycle. But towards the end of May (that is, within three months) stenosis and stridor slowly set in, with thickening over the anterior end of the right ventricular band. In June he was seen by Sir Henry Butlin, who advised waiting, in hope that the condition might be inflammatory or perichondrial.

In August we had a consultation with Dr. Lack, who advised waiting and watching, with complete excision of larynx if recurrence became decided. In September and October this advice was confirmed by Sir Henry Butlin, but by November, 1909, the stridor was so marked and suffocative attacks had become so alarming that tracheotomy was performed, and a week later, after a conference with Sir Henry Butlin, I removed the entire larynx with the first two rings of the trachea. The lower extremity of the trachea was attached to the front of the neck, and the opening into the pharynx was closed with catgut and the muscles sewn together over this, as it was my intention to cut off all communication between the mouth and the lungs. But these stitches broke down, leaving a gaping opening from the neck into the pharynx. The mucus and saliva which poured down into this space required careful plugging for many weeks as well as feeding with a nasal stomach tube. The result, however, was much more satisfactory than if the stitches in the pharynx had all held; for, as the wound slowly closed by granulation, the opportunity was taken of keeping open a track, by means of an inverted rubber tracheotomy tube, from the front of the neck up to behind the epiglottis. Into this track the upper lobster-tail portion of a von Bruns's artificial larynx was fitted, the lower segment of the instrument passing down into the orifice of the trachea,

which had meantime become anchored to the front of the neck. When the orifice of this instrument in the front of the neck is corked up the patient is able comfortably to carry on respiration with air which has been filtered through his nose, and it also permits of his talking freely in a loud, strong whisper. When he requires more air—as in bicycling—he simply removes the cork from the von Bruns apparatus, and he then has an intake of air direct through the orifice in his neck in addition to what he inspires through his nose (Fig. 10).

The patient's feeling of well-being can be judged from the following extracts from some recent letters. He writes: "I think nothing of riding from 8 to 10 miles on my bicycle. I can bend down with the greatest ease, and this used rather to distress me. I never want to rest as formerly, and walk quite as fast as an ordinary man. I can lift quite heavy weights, always sleep well, have a good appetite and less constipation than formerly. I smoke 2 oz. of tobacco a week in a pipe—never anything else—and find it a great solace. I think I have noticed that my brain works with a clearer vision and I grasp facts more easily than hitherto; but perhaps this is through my being forced to speak as little as possible, and consequently I think and reason things out a good deal beforehand so as to save unnecessary talking. I am so well that I am anxious to get work to do, and some friends are trying to find me employment. I feel that by remaining idle I am wasting the powers which have been so mercifully restored to me."

I have quoted the patient's own description of his case at some length, as it shows a cheerfulness and vigour in marked contrast with the feeble and pitiable condition of many cases of laryngectomy in which all communication between the upper and lower air passages has been absolutely cut off.

Fig. 10.—Modification of von Bruns's apparatus for cases where an opening is maintained into the pharynx.

It is now two years and two months since the entire larynx was removed, and the patient remains in excellent health and spirits and quite free from any recurrence of disease.

CASE VIII.

Mr. E. D., aged 58, December 21st, 1909. Referred to me by Sir Alfred Fripp and Dr. Greville MacDonald. He had been hoarse for about six months, and ten days previously to my seeing him a growth had been removed intralaryngeally by Dr. MacDonald from the right vocal cord and found microscopically to be an epithelioma. Both vocal cords moved freely, and the central part of the right cord showed an abraded granular surface. No glands. Chloroform was administered by Sir F. Hewitt, and with the assistance of Sir A. Fripp and Drs. Greville MacDonald and Irwin Moore, I performed a laryngo-fissure. Hahn's tube was not used. The soft tissues on the inner surface of the right thyroid cartilage were raised with the perichondrium, and the right cord was thus completely removed. The tracheotomy tube was not left in, but seven hours later it had to be inserted on account of some haemorrhage in the trachea. The tube was discontinued two days later. Within twenty-four hours of the operation the patient was sitting up and swallowing. Recovery was uneventful, except for some necrosis of the divided edges of the thyroid cartilage.

The microscopic examination of the removed vocal cord revealed an epithelioma.

The patient leads an active life and is in excellent health. His voice is fairly good. He has now passed more than two years without any suspicion of recurrence.

CASE IX.

Mr. F. S., aged 68, was brought to me on October 20th, 1910, by Mr. Leonard Avery with hoarseness of some three months' duration. The anterior four-fifths of the left vocal cord was replaced by a rough, almost cauliflower-like, infiltration, leaving

the processus vocalis free. The surface was whitish, and the base and the rest of the cord were deeply congested. At the corresponding part of the opposite cord there was a little whitish roughness (Fig. 11). Both cords moved freely. No

Fig. 11.—Case IX. Epithelioma of larynx.

enlarged glands. There was no history of lues and the Wassermann reaction was negative. To confirm the diagnosis of epithelioma I sent the patient to Sir Henry Butlin, and his letter in reply is so interesting that I quote it in extenso:

"My dear Thomson,
"Even if there had been a positive reaction to Wassermann's test, I should regard the little growth in Mr. S.'s larynx as almost certainly malignant, on account of the whitish papillary projection from a red

raised base, which looks like a collar around the whitish portion. The cord is red for some distance beyond the limits of the tumour. But it moves quite freely. There is a suspicion of something wrong on the margin of the other (the right cord), but I do not think it is yet a contact cancer.

"There is no widening of the larynx or enlarged gland that I could feel in the neck. It is an excellent case for thyrotomy. Cut the cord right out, and there ought not to be any recurrence. And just shave off the right cord if it is suspicious.

"But the patient is not good for an operation—chronic bronchitis, emphysema, and a very intermittent and slow pulse, and a bit slow in replying to questions. If he can stand lying with only an excuse for one flat pillow for four or five days after the operation, so that the liquids do not ooze down his air passages, you may pull him through. But if he has that oozing into his air passages, particularly of septic liquid, I think that he will die.

"However, I am quite sure he had better face the danger of an operation than be allowed to die slowly of a horrible disease.

"Yours very truly,

"HENRY T. BUTLIN."

November 3rd, 1910: Operation, assisted by Messrs. Avery, Irwin Moore, and A. J. Hutchison of Brighton. Drs. R. Wilson and Rogers of Montreal were present, and Sir Frederic Hewitt gave chloroform. The thyroid cartilage was so ossified—the patient's age was 68—that it required a saw to divide it. No Hahn's tube was employed. The growth on the left cord, with the surrounding soft parts, was raised on the perichondrium from the thyroid cartilage, and clipped out *en masse*. The suspicious spot on the opposite side was found to be a leucoplakia-like spot about the size of a lentil, and it was clipped off, but nothing further was done. No tracheotomy tube was left in. Dr. Spitta reported that the growth from the left cord was an epithelioma, but that the portion removed from the right cord showed only thickened cells. The patient swallowed liquids within twenty-four hours, and was out of bed and eating solid food within forty-eight hours. There was no bronchial or pulmonary trouble traceable to the operation, but later on, in very foggy November weather, he developed considerable emphysema and bronchitis, with a temperature of 101°. In spite of this he made a good recovery.

He has gained 1 st. in weight, has resumed smoking, and speaks freely in a strong rough voice.

He has now been one year and three months without any suspicion of recurrence.

CASE X.

Mr. I. M. R., aged 55, a merchant in Calcutta, was brought to me by Sir Havelock Charles on November 10th, 1910. He gave a history of intermittent huskiness for nearly two years and of persistent hoarseness for seven months. When in India in September a portion of a growth was removed *per vias naturales* from the right side of his larynx and pronounced to show no positive sign of malignancy under the microscope. On examination I found the right side of the endolarynx was fixed by a rough infiltration, replacing the cord and some of the ventricular band; there was no distinct fungation nor whitish sprouts about it, and no glands in the neck. The Wassermann reaction was negative. Sir Felix Semon, in consultation, unhesitatingly confirmed the clinical diagnosis of malignancy and advised immediate laryngo-fissure, but with reserve in regard to possible extension to the glands beside and below the thyroid cartilage.

November 18th, 1910: Operation, assisted by Sir Havelock Charles and Dr. Irwin Moore; chloroform by Mr. Walter Tyrrell. The growth did not invade the ventricular band to the extent suggested by the laryngeal mirror. The growth was undermined and removed *en bloc*, as in the previous cases. Microscopic examination showed a malignant growth of squamous type. In addition, a small mass of tissue was removed from the anterior commissure, together with a small anterior portion of the left vocal cord. This was also reported to show a malignant growth. Finally, as there was a suspicious appearance of the posterior part of the right side, the vocal process with part of the arytenoid was removed. On this the pathologist's report was: "There is no malignant invasion of the arytenoid tissue. The glands are degenerated and inflamed. The surface epithelioma is intact, but beneath it there is a zone of round-celled infiltration."

The patient was sitting up and eating solids within forty-eight hours. He returned to India a month later.

These 10 cases can be summarized in the following table, which I have arranged so as to be readily referred to for certain points which appear to me to call for consideration and discussion (see table at foot of page).

The duration of the cure in each case from the date of operation to February, 1912, has been as follows:

						Cases.
7½ years...	...	...	...	...	...	1
4 years and 4 months	...	...	...	...	...	1
3 years	...	...	...	...	...	1
2 years and 2 months since laryngectomy	...	...	...	...	...	1
2 years and 1 month	...	...	...	...	...	1
1 year and 3 months	...	...	...	...	...	2
Died from other cause 15 months after operation	...	...	...	...	...	1
Died from cancer of tongue on opposite side 3 years after operation, and without local recurrence	...	...	...	...	...	1
Died from local recurrence	...	...	...	...	...	1
						10

CONCLUSIONS.

The conclusions to be drawn from this record can be stated briefly as follows:

All the patients were male.

Their ages varied between 43 and 68. Five, or 50 per cent., were under 50. Four were between 50 and 60. One was nearly 70.

	Sex and Age.	Duration of Huskiness.	Kept under Observation.	Enlarged Glands.	Movement of Vocal Cord.	Preliminary Microscopic Examination.	Hahn's Tube.	Pathological Report.	Recurrence.
Case I ...	M., 47	3 months	4 months	None	Good	Not made	Used	Epithelioma	None locally. Death from cancer of opposite side of tongue 5 years later.
Case II ...	M., 49	2 years	—	Small gland on crico-thyroid membrane	Abolished	Not made	Used	Carcinoma	None at end of 15 months. Death from other causes.
Case III ...	M., 48	13 months	9 months	Slight on opposite side	Slightly impaired	Not made	Used	Epithelioma	None after 7½ years.
Case IV ...	M., 49	6 months	1 month	None	Slightly impaired	Not made	Used	Epithelioma	Recurrence in 8 months. Death.
Case V ...	M., 54	1 year	—	None	Abolished	Not made	Not used	Epithelioma	None after 4 years and 4 months.
Case VI ...	M., 59	3 months	—	None	Good	Positive	Not used	Epithelioma	None after 5 years.
Case VII ...	M., 43	1 year	—	None	Slightly impaired	Not made	Not used	Epithelioma	Recurrence in 9 months. Laryngectomy. No recurrence since in 2 years and 2 months.
Case VIII ...	M., 58	6 months	—	None	Good	Positive	Not used	Epithelioma	None after 2 years and 1 month.
Case IX ...	M., 68	3 months	—	None	Good	Not made	Not used	Epithelioma	None after 1 year and 5 months.
Case X ...	M., 55	7 months	—	None	Abolished	Negative	Not used	Epithelioma	None after 1 year and 3 months.

In no case did thyrotomy reveal any error of diagnosis.

The death-rate from the operation was nil.

Only one case is dead from local recurrence.

A second case died from separate development of cancer in another part of the body.

A third patient is dead from another cause.

Laryngo-fissure alone has yielded a lasting cure in 80 per cent. of cases.

Laryngo-fissure, supplemented by excision of the larynx in a case of local recurrence, has preserved 90 per cent. of the patients.

In the only two cases in which there was local recurrence the disease reappeared within the year following the operation of laryngo-fissure. This fully confirms Sir Felix Semon's conclusion that there is little or no anxiety as to return of intrinsic cancer if the larynx remains free for twelve months.⁶ This conclusion is not invalidated by even such an interesting observation as that of Tilley where a patient had one vocal cord removed by laryngo-fissure for epithelioma; that side of the larynx remaining free for thirteen years, and the patient then dying from a cancer which developed on the opposite vocal cord.⁷

As regards the diagnosis, it will be noticed that huskiness, more or less persistent, was the principal subjective symptom. It had been present in periods varying from three months (Case ix) to two years (Case ii) before the patients presented themselves. In the majority of cases the diagnosis was made at once from the clinical appearances alone. In one case the condition was kept under observation for one month, in another for four months, and in a third case for nine months, before other possible diseases were eliminated. This last mentioned case was actually hoarse for twenty-two months (Case iii), and yet he has now been free of recurrence for seven and a half years.

In no case was there any decided enlargement of the cervical glands. In one case (Case iii) there was a slight enlargement of one gland, but it was on the opposite side of the neck. In a second instance (Case ii) the small gland always present in front of the crico-thyroid membrane was found slightly enlarged, but the microscope proved it to be free from epithelioma.

In three cases there was a preliminary microscopical examination of a removed portion of the neoplasm. The reasons why this is not done systematically in my practice are threefold: (a) In the majority of cases intrinsic laryngeal cancer presents itself as an infiltration of the cord, so that the removal of a satisfactory portion for examination is practically impossible. (b) An attempt at such a removal may hasten the extension of the disease, and it certainly so alters the local appearances that diagnosis by inspection becomes much more difficult. (c) The report on an unsatisfactory portion may be misleading, and so cause dangerous delay. This occurred in one of my cases (x); in the other two the microscopical report confirmed a suspicion, and justified me in proceeding with an operation which, otherwise, would have been undertaken with diffidence.

The microscopical report of the neoplasm removed at the operation in every instance confirmed the diagnosis of cancer.

The impaired mobility of the affected cord is, when present, a valuable symptom. The cord was quite fixed in two cases (v and x), and its movement was impaired in three other cases (iii, iv, and vii). In two of these latter cases this failing mobility developed while under observation, and helped to confirm the diagnosis. Hence, in all, there was interference with movement of the cord in 50 per cent. of my cases, and I am thus able to confirm the value of a possible symptom to which Sir Felix Semon first directed attention.⁸

The technique of laryngo-fissure I do not propose to enter into this evening, but I would only refer to two points. I used Hahn's tube in the first four cases, but dispensed with it in the last six cases, and do not intend ever to employ it again. It is untrustworthy, risky, and unnecessary. The second point is the anaesthetic. One operation (vi) was performed under the local anaesthesia of encaïne. Although quite successful, the ordeal to both patient and surgeon is considerable, and I do not think that the mental strain to the former is counterbalanced by

the gain. Several patients have declined it. The anaesthetic in the other cases was chloroform, and I am indebted in every instance to the skill of the anaesthetist who administered it. In such cases not only is an expert necessary, but there is probably no other operation in surgery where particular training and experience is so necessary. For future cases I shall look forward to the advantages of the intravenous method of administration.

For the absence of error of diagnosis, in any case, and for the avoidance of any mortality from the operation, we are indebted to the pioneers in this subject, and without any risk of being charged with Chauvinism I think we may claim that the greater share of the credit is due to Sir Felix Semon and our deeply-lamented friend Sir Henry Butlin. The diagnosis still remains a difficult subject. As Butlin pointed out seventeen years ago,⁹ there are three classes of cases—the first in which any one can make a diagnosis; the second, in which only the better instructed and more experienced make it and others do not; and the third class, in which the conditions are so obscure that no one can make the diagnosis unless the larynx is opened, and in some cases it is even then difficult to make sure of the nature of the disease. A reference to the details of my ten cases will illustrate these points. In 50 per cent. of them the impaired mobility was a valuable sign. In 20 per cent. the microscope confirmed a suspicion. In 35 per cent. the gradual development of symptoms proved of value. I would call attention to this latter test, as it may be wiser to watch a case for some months—as happened in one of my successful cases (iii)—rather than risk a failure. In all cases the sex and age of the patient, and the careful exclusion of other possibilities, are of paramount importance.

The convalescence in two cases was marked by an occurrence which often raises unnecessary alarm in the minds of laryngologists who may not have had experience of it, or who have not been warned of it by their studies of the subject. I refer to a small growth which sometimes makes its appearance in the anterior commissure or on to the new cicatricial vocal cord within a few months of the operation. This happened in Cases iii and vi. Within three months a smooth, soft, pinkish, more or less pedunculated growth appeared. It was removed with laryngeal forceps, and was found to be a simple granuloma (Fig. 5).

The technique has been established by Semon and Butlin, and the improvements introduced by von Bruns, Chevalier Jackson, Moure, and others have been generally in the direction of simplification. I am glad that I have ventured to dispense with the Hahn's tube, and I am well satisfied with keeping the patient in a freely ventilated room and getting him out of bed as soon as possible, frequently within twenty-four hours. Preliminary treatment in the way of cutting off alcohol and tobacco, and purifying the mouth, are amongst small but important details.

In conclusion, I can but re-echo the fervent hope expressed in this room by Sir Felix Semon exactly five years ago—namely, that this evening's discussion may give a fresh impetus to early diagnosis, and immediate, thorough removal of the disease by thyrotomy in cases of intrinsic cancer of the larynx.¹⁰

I am much indebted to my friend Dr. P. Watson-Williams for most of the drawings which illustrate this article. They are made from my own rough sketches.

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- ¹ *Gaz. hebdomadaire*, xvi, 1879, p. 518. ² *BRITISH MEDICAL JOURNAL*, August 23rd, 1890. ³ *Allbutt and Rolleston's System of Medicine*, vol. iv, 1908, p. 251. ⁴ *Laryngoscope* xix, August, 1909, No. 8, p. 587. ⁵ *Proceedings of Laryngological Society of London*, December, 1903, p. 68. ⁶ *Journal of Laryngology*, September, 1903, p. 473. ⁷ *Proc. Roy. Soc. Med., Laryngological Section*, December, 1909, p. 33. ⁸ *Heath's Dictionary of Practical Surgery*, i, 1886, p. 895; *Trans. Clin. Soc. London*, xx, p. 46; *BRITISH MEDICAL JOURNAL*, 1888, i, p. 1240; *Centralbl. f. Laryng.*, v, pp. 52, 268. ⁹ *BRITISH MEDICAL JOURNAL*, October 26th, 1895, p. 1034. ¹⁰ *Trans. Med. Soc. London*, vol. xxx, January 28th, 1907, p. 111.

THE thirteenth French Congress of Medicine will be held in Paris in October next (13th to 16th), under the presidency of Professor Chauffard. The following questions are proposed for discussion: Oxalæmia and oxaluria; acute infectious colitis; treatment of hæmorrhagic syndromes. In addition to these the following are suggested: Anaphylactic states in their clinical aspects; antityphoid vaccination. The General Secretary is Professor P. Teissier, 142 bis, rue de Grenelle, Paris.