SOCIETIES' PROCEEDINGS

ROYAL SOCIETY OF MEDICINE—SECTION OF LARYNGOLGY

President: J. H. Otty, F.R.C.S. Ed.

Discussion on Recent Advances in the Treatment of Intrinsic Carcinoma of the Larynx

February 3rd, 1961

The opening papers will be found on pp. 785-820.

Dr. I. Simson Hall: There have been two excellent and stimulating papers from the openers which have done more than bring this subject up-to-date. It is evident that constant study is necessary if our patients are to receive the best possible service.

It is interesting to find that the process which Mr. Wilson describes of oscillation between therapy and surgery is almost identical to that which has been experienced in Edinburgh.

For some time past primary surgery has been abandoned almost completely in favour of radiotherapy in Edinburgh.

It must be remembered however that there is ready access to first class radiotherapy. Everyone is not so fortunate, and even in this "jet" age it may not always be possible to bring every patient to the modern treatment. It is not easy to get the best results in radiotherapy. It is probably more difficult than to get first class results by surgery in cases of limited cancer.

If nothing but 250,000 KV. therapy were available in Edinburgh, at present surgery would probably be the rule.

Primary surgery therefore may still have its uses.

Mr. Lewis's remarks on the treatment of keratosis were extremely interesting, and until recently this has been the practice followed.

Recent experience, however, has caused a review of this position. It was commonly taught that highly differentiated growths such as keratosis did not respond or responded badly to radiotherapy, and therefore surgery was the correct line of treatment. Experience with the linear accelerator shows that this view was incorrect, and widespread keratosis has been seen to disappear under treatment.

The other argument in favour of surgery was that if recurrence took place radiation treatment was then possible. This is true but the assumption is that there will not be recurrence after surgery. This again is not in accordance with fact for recurrence of keratosis has been seen to occur in the adventitious cord after laryngo-fissure and from that to proceed to malignant change.

As both methods are effective in removing the disease and as neither method

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is proof against recurrence it seems only logical to preserve function by using radiotherapy—by linear accelerator or cobalt unit first, and keep surgery for the recurrence. In this way treatment throughout is logical and the same principles are observed.

It would be interesting if the main speakers would give their views upon the treatment of the gland drainage areas.

Some of the growths described are such as have extended outside the cavity of the larynx and so the risk of lymph node involvement is greatly increased.

There is great diversity of opinion regarding the handling of gland drainage areas. Some surgeons feel that they should be dealt with early, others that treatment should await the appearance of palpable nodes.

If growths are classified according to probability of recurrence it becomes evident that in those involving the folds, and base of epiglottis the recurrence rate in glands is high.

Should a laryngectomy be decided upon as the correct form of treatment, rather than a limited operation as described by Mr. Lewis, it is probable that there are few surgeons today who would not take the opportunity of removing the glands on the side most affected.

The question therefore may be asked whether in view of the high rates of cancer found in glands which were not palpable (Clerf, 1955; Bocca, 1953) it would not be better to dissect out the glands in all those types of case which were known to be prone to secondary involvement as early as possible after completion of an apparently successful radiation treatment.

This seems the logical thing to do and would possibly reduce the number of cases, unfortunately too large, in which it is found that when glands do appear they are already inoperable.

It is not often that a clear-cut local recurrence, such as that described by Mr. Lewis, is encountered. Usually there is difficulty in deciding, even with the help of biopsy, whether the œdema or swelling is due to reaction or to recurrence. Where, however, it is clear, Mr. Lewis has done a real service in reminding us of these other less mutilating operations, and there is no doubt he has stimulated us to think along conservative lines.

Miss M. D. Snelling: At the Middlesex Hospital it is thought essential to irradiate a fairly large volume when treating intrinsic carcinoma of the larynx, even in those cases where the primary tumour appears clinically to be small and to be localized to the centre of the cord. This policy has been adopted because even amongst those cases where on indirect laryngoscopy the tumour has appeared to be very localized, the disease may be later found to have infiltrated widely. Even the earliest cases are therefore treated as potentially infiltrating tumours. Treatment is always by external irradiation, the whole larynx is irradiated in every case and the treatment volume extends at least 1 cm. above and below the level of the cord.

Slides were shown to illustrate the development of the present technique used in the treatment of these cases.

In early years and during the war, all patients were treated with deep X-rays, two or three fields being used to irradiate the whole larynx. So far as cure was concerned, results were almost as good as with the present technique,

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but there was certainly more fibrosis and telangiectasis. Because of the comparatively low penetration of the beam the whole of the structures in the anterior part of the neck were irradiated to almost the full tumour dose while, because of the quality of the beam (i.e. the lower energy compared with that of the rays from Cobalt 60 source or linear accelerator) the incidence of chondritis or necrosis of cartilage was higher than with modern techniques. Now, using gamma rays from Radium or Cobalt 60, the increased penetration makes it possible to restrict the volume of high irradiation to the larynx, while with this type of beam the dangers of cartilage necrosis are also much diminished. Two antero-lateral fields are used and by inserting wedge filters it is possible to produce a high dosage area round the larynx with much diminished irradiation of the surrounding structures. A danger that must be considered when treating these patients by large Cobalt units or with a linear accelerator, is the possibility of irradiation of the spinal cord with subsequent myelitis. This danger is small with deep X-rays because of their lower penetration, but high energy rays penetrate cartilage and bone as easily as soft tissue and this fact must be remembered when planning these treatments.

A slide was shown illustrating a single field treatment with a linear accelerator. In this technique the high dosage area is limited to one cord and this technique therefore fails in cases where the tumour in fact extends around the commissure or posteriorly. It is thought that because of the impossibility of being certain of the real extent of the tumour, this technique is not suitable for carcinoma of the larynx and that a multifield technique which includes the whole of the larynx in the treated area is to be preferred.

Prof. V. F. Lambert: In Manchester we have tried all the different methods of treating vocal cord cancer by the local application of radium. Only one of these has stood the test of time and that is the Finzi-Harmer technique which has been used on 130 patients with a five-year survival rate of between 85-90 per cent. This figure includes deaths from all causes and not just those attributable to malignancy. All cases have been carefully selected.

For the moment the Finzi-Harmer technique has given place to high frequency irradiation and it is too soon yet to make comparisons between it and the Finzi-Harmer method. Two interesting facts have emerged from a recent survey we have made, and that is the decrease in the incidence of laryngeal malignancy in the North-West Region and the striking fact that on the whole, malignant disease of the larynx is being referred to laryngological clinics at a much earlier stage than previously.

Mr. H. J. Shaw said he felt very much in agreement with Mr. Lewis's opinions and wished to congratulate him on a lucid and thoughtful paper. He particularly wished to support the use of conservative surgery after failed irradiation in selected intrinsic lesions. In such cases he would not advise elective neck dissection.

Although in this country today the majority of these lesions should be initially treated by external irradiation, he entirely disagreed with the indiscriminate "try irradiation first" policy. For example, he felt there was a definite case for initial conservative surgical treatment of limited intrinsic lesions in

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certain elderly and perhaps in young patients. In the former because both treatment and recovery were infinitely quicker. And in the latter because of the real possibility of subsequent primary cancer in the area.

Finally he wished to plead that in teaching care should be taken not to give any impression that partial laryngectomy was outmoded. There was a place, albeit restricted, for conservative surgical techniques in the treatment of intrinsic laryngeal cancer, especially in situations where modern irradiation was not feasible.

Mr. R. D. Owen asked Mr. C. P. Wilson to be a little more specific regarding the treatment of sub-glottic carcinoma. One realizes the advances made in the application of high-voltage therapy, but is he really satisfied with the treatment of this lesion by this means? Mr. Owen's own experience, as far as therapy is concerned, is one of disappointment, and whenever he meets a sub-glottic lesion with a tendency to spread well below the anterior commissure, he invariably advises laryngectomy.

Mr. Hogg agreed with Mr. Lewis that in some instances growths of the middle third of the cord which have failed to respond to irradiation can be successfully removed by laryngo-fissure.

RESULTS OF 216 CASES OF CARCINOMA OF THE LARYNX TREATED AT THE FONDATION CURIE. B.J.R. SUPPLEMENT No. 3.

Site of Origin	Glands Present			Glands Not Found Clinically			Overall Cure Rate
	Survivals	Total	%	Survivals	Total	%	
Cord (Unilateral)	—	—	—	10	14	71	71
Cord with extension	1	11	9	23	72	32	28
Vestibule	0	62	0	13	43	30	12·5
Sub-glottic ..	0	1	0	1	12	8	—
Total	1	74	1·3	47	141	33	22

RESULTS OF TREATMENT OF 52 CONSECUTIVE CASES OF CARCINOMA OF THE LARYNX SEEN IN THE PORTSMOUTH GROUP 1948-1955.

Site of Origin	Glands Present			Glands Not Found Clinically			Overall Cure Rate
	Survivals No. Cases	Total No. Cases	% Cured	Survivals No. Cases	Total No. Cases	% Cured	
Cord mid-third ..	—	—	—	3	3	—	100%
Glottic extensive	0	1	0	13	21	61	59%
Vestibule ..	0	11	0	4*	14	28	16%
Sub-glottic ..	0	0	0	0	2	0	0%
Total	0	12	0	20	40	50	39%

* Two glottic cases had laryngo-fissure within the five-year period and remained well afterwards.

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Of 4 patients treated in this way 3 have survived without recurrence, but 1 has succumbed with massive metastases in the neck.

Mr. A. Seymour-Jones: Fifty two consecutive cases of intrinsic carcinoma of the larynx, all proved histologically, are presented. They are quite unselected and are representative of the cases seen consecutively in the Radiotherapy service in Portsmouth and Chichester Group Hospitals for the period 1948-55. The reason for selecting this period was to permit a 5-year follow-up survey. The total population served approaches half a million in number, and it is mixed in character, being partly industrial and urban and partly rural.

The principle adopted has been to subject all patients initially to Radiotherapy, using throughout the period a 250 Kilovolt machine, while surgery has been employed for residual growth or recurrences. All cases involving pyriform fossa or hypo-pharynx have been excluded, and have been reported elsewhere.

Analysis of the cases shows:—

(1) Two cases were treated by laryngo-fissure within 5 years and remained well afterwards.

(2) Two cases had laryngectomy in their 7th year.

(3) Of the 20 cases who remained well for 5 years, three had absolute fixation of the cord, and two impaired mobility.

(4) The total number of tracheotomies performed was eight, exclusive of the cases which underwent laryngectomy.

(5) The average dose of Radiotherapy given was 5,500 to 6,500 rœntgens over an 8 week period, with the intention of avoiding any fibrinous re-action, and all were treated as out-patients.

Two slides are shown, one indicating results of treatment in the Portsmouth Group for the period 1948-55, and another for comparison showing the results of 216 cases treated at the Fondation Curie, Paris during the period 1926-40, published in Supplement No. 3 of the *British Journal of Radiology*, 1948.

The conclusions that may be reached are that carcinoma of the middle third of the true cord has an excellent chance of clinical cure. The Portsmouth figures show a total 5-year survival rate of all cases of 39 per cent.

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