Remarks

ON

TUBERCULOSIS OF THE LARYNX AND ARTIFICIAL SUNLIGHT TREATMENT*

BY

SIR STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S.

LARYNGOLOGIST TO KING EDWARD VII SANATORIUM, MIDHURST;
EMERITUS PROFESSOR OF LARYNGOLOGY IN KING'S COLLEGE
HOSPITAL, LONDON

Some years have passed since the therapeutic use of artificial light—violet rays, ultra-violet light, etc.—reached what we may call its “boom” period. In early days some investigators promptly followed, with brilliant results, the sage advice of the French savant in regard to new remedies: “*Hâtons-nous de les utiliser pendant qu’elles sont encore efficaces.*” But in certain common conditions—such as debility in children, catarrh, the common cold, rheumatism, etc.—where good results might have been looked for, reports have been available for some time, and are mostly disappointing.

In a disease so slow in complete healing and so kaleidoscopic in its behaviour as tuberculosis, an investigation must necessarily take a long time. It is also difficult to assess the value of any new form of treatment which has to be carefully compared with the well-established results of sanatorium methods and the reliable assistance of the galvano-cautery and thoracic surgery. Seven years have therefore elapsed since the consulting medical staff recommended the council of King Edward VII Sanatorium to install the necessary outfit at Midhurst. This advice was based on the encouraging reports received from various sources. The light treatment at that time was warmly recommended in tuberculosis of the larynx, and it was claimed that as many as 55 per cent. of cures could be obtained by employing this remedy. As our own efforts, based on the first ten years’ experience of 477 cases under the best sanatorium conditions,¹ had only allowed us to claim 25 per cent. of cures in all cases, we were naturally anxious to test a method recommended by esteemed authorities in several countries. I do not propose to sketch the history of the method nor to supply a bibliography, although I have carefully studied both, for, unfortunately, my own experience at Midhurst has failed to confirm the earlier commendations.

EQUIPMENT AND TECHNIQUE

In a comfortable, well-warmed room two couches were arranged with lamps between them, so that two patients could share the light rays at the same time. Communicating with this room was a dressing room, equipped with a douche. The carbon lamps, obtained from Copenhagen, were exactly similar to those used and recommended in the Finsen Institute. The total cost of the installation was £518 19s. 4d., of which the structural alterations cost £188 1s. 8d. These figures are given to show that no expense was spared by the council in supplying the necessary armamentarium, and also so that other institutions may have some idea of what the expenditure is likely to be.

To feel assured that we not only had satisfactory and adequate appliances, but also that they were properly employed, I paid a visit to the Finsen Institute, and our medical superintendent, Dr. R. R. Trail, made a special journey to Copenhagen. Like myself, he was cordially and generously received by Dr. Strandberg, who did everything possible to help us in understanding the

method of employing the treatment. To make doubly sure of this, a Danish nurse from the laryngological clinic of the Institute paid a visit of some weeks to Midhurst to instruct one of our nurses in the details of technique. In addition, during his visit to England in 1926, Dr. Strandberg very kindly came down to the sanatorium, and expressed himself as quite satisfied with our arrangements. We feel fairly confident, therefore, that the treatment had a trustworthy trial so far as equipment was concerned. I do not think it is necessary to go into details as to the particular lamps used, the strength of light employed, the length of exposure, the frequency of the baths, etc. We have followed the methods advised by the Danish authorities.

CASES SELECTED FOR LIGHT TREATMENT

The first light treatment at Midhurst was given on November 18th, 1926. The present report deals with cases between that date and 1929, and includes all cases so treated during the three years. No case has been included which left the sanatorium after November, 1929. The list was then closed so as to enable us to trace the history of all these patients during two years after their discharge. In these three years, thirty-two cases of laryngeal tuberculosis were selected for trial; sixteen were males and sixteen females. These were chosen as suitable because they were favourable as regards (a) the situation in the larynx, (b) clinical nature of disease, (c) record of steady temperature, (d) condition of the lungs, (e) satisfactory type of patient, and (f) the indications of favourable resistance.

As evidence of the promising situation and limited extent of laryngeal disease, it was recorded that in no fewer than eleven instances (one-third of the group) there was no change in the voice. The discovery that there was a throat lesion was made owing to our custom of examining the upper air passage of every patient on admission. The laryngeal disease had not caused any voice change, because it had left unaffected both vocal cords and the posterior commissure stretching between them. Complete normal glottic closure had therefore been unimpaired, for in these cases the lesions had occurred above the level of the closed glottis, and consisted generally of limited and often unbroken deposits in the interarytenoid area, or in the region above the vocal processes—very favourable locations.

In all the thirty-two cases the appearances were those of a fairly quiescent type. No case was submitted to light treatment until voice rest (whispers or silence) and the general sanatorium treatment had shown that there was no activity, and that local as well as general conditions warranted the opinion that the case was well within the expectation of cure. Rectal temperature, morning and evening, was first charted for some weeks. Although some supporters of light treatment have recommended its employment even with pyrexia, urging that it would reduce fever, we have never been able to bring ourselves to disregard this valuable symptom as an indication for strict rest and a warning against any activity, physical or mental. This guiding principle was only strengthened by our experience in some of the cases, where each attempt to apply light treatment was checked by the onset of pyrexia. Needless to say, the treatment was never tried with patients undergoing strict (bed) rest.

LOCALITY OF LARYNGEAL LESIONS

In the cases in which light treatment was given the laryngeal disease was generally early and limited, and, in the majority of cases, intrinsic—that is, the disease was in the interarytenoid area, or the cords or the ventricular bands. In no case was the crico-arytenoid joint invaded, and in no case was there any dysphagia. It was

* Made in the Section of Tuberculosis at the Centenary Meeting of the British Medical Association, London, 1932.

employed in only five extrinsic cases—three males and two females, in whom the epiglottis was invaded by a lupoid type of disease. In one of these light was discontinued owing to pyrexia, and the lupoid appearance took on a miliary form, the patient dying six months later. In one there was no improvement, and the epiglottis broke down six months later. In another no improvement took place, and the galvano-cautery had to be employed; this resulted in healing, which has now remained complete for three years. The fourth case also required the cautery before a cure could be obtained, and the fifth—a man of

looked forward with considerable confidence to being able to support the claim of more certain and rapid healing with the added help of light treatment.

RESULTS

The results have caused us much disappointment. We found that the treatment may be harmful, that only in a very small number of cases could any benefit be attributed to it, and that few of the thirty-two patients became enamoured of it or were anxious to persevere after an adequate trial.

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 1.—Typical interarytenoid abraded pyramidal deposit. Treatment by silence and artificial pneumothorax. Light treatment suited the patient, and had no ill effects on temperature; tubercle bacilli disappeared from sputum. After eight months' stay in sanatorium the deposit was still prominent.

FIG. 2.—Same as Fig. 1. A year after leaving sanatorium, without further treatment, the deposit became reduced and fibrosed.

FIG. 3.—Indolent ulcerating deposit over each vocal process and in subglottic area below; lupoid infiltration of right half of epiglottis, with indolent shallow ulcer on right margin. Seven months of silence and light treatment: no pyrexia; gain in weight; patient enjoyed baths; little or no improvement in larynx.

FIG. 4.—Same as Fig. 3. One treatment with the galvano-cautery was followed, in two months, by complete cicatrization, although tubercle bacilli remained present in the sputum.

FIG. 5.

FIG. 6.

FIG. 7.

FIG. 5.—Ulcerating deposit of both cords, with some pachydermia-like deposit over both vocal processes, and superficial, irregular, ulcerating interarytenoid deposit. Silence and light treatment for seven months without improvement. Three treatments with the galvano-cautery resulted in cure in three months, and healing has been maintained for three years.

FIG. 6.—An interarytenoid deposit, with the whole of the left cord infiltrated and ulcerated. Response to light treatment satisfactory; gain in weight; no pyrexia during the three months of treatment, and the rapid healing appeared to be expedited by the light baths.

FIG. 7.—No voice change; both cords sound. Right side of larynx much impaired in movement through extensive lupoid infiltration of all right arytenoid and aryepiglottic fold, with ulcerating stalactites in right interarytenoid area. Margin of the epiglottis red and swollen, and its laryngeal surface showed a deeply ulcerated infiltration, with an irregular, dirty grey, crater-like appearance. Patient soon lost his tubercle bacilli, gained weight, and left sanatorium at end of five months with larynx healed. Disease recurred two years later and again healed, but without light or treatment other than voice rest and sanatorium principles.

56 with a small lupoid deposit on one side of the epiglottis—healed without other treatment.

All the patients willingly accepted the advice to try the light baths. They knew, by the tradition at the sanatorium, that "throat cases were longer" than the average pulmonary case, and they would gladly shorten the period of irksome silence. The method of treatment was far from unpleasant, and the Press, both lay and medical, was at that time very enthusiastic in recommending its benefits. These points are mentioned to indicate that many factors in suggestion were at work to further the therapeutic value of the treatment. These thirty-two cases were selected as being of the extent and type in which we had been accustomed, from twenty years' experience, to anticipate complete healing under the sanatorium regime, with the addition of voice rest and, in some cases, of the galvano-cautery. We therefore

In the results displayed in figures we have an example of how misleading unanalysed statistics may be. Judged by final result alone a successful case might be made out in favour of light treatment, whereas an analysis of the figures clearly demonstrates what an ineffective addition it is to sanatorium methods.

Condition worse	...	...	...	1
Condition <i>in statu quo</i>	...	...	...	3
Condition improved	...	...	...	4
Condition cured	...	...	...	24
				<hr/> 32

To obtain twenty-four cures in thirty-two cases (75 per cent. of success) might be claimed as a much higher proportion than the average. As already stated, during a ten years' experience at Midhurst the average of cures in all cases of laryngeal disease only amounted to 25 per

cent. But that record was obtained in a series of 475 unselected cases, and in 103 of them chosen as suitable for the galvano-cautery we obtained 64.08 per cent. of cures.² When, therefore, we study the cures resulting in the twenty-four out of thirty-two cases submitted to light treatment we must consider the other factors which were at work. (a) All the cures were in patients selected as "favourable" as regards both local and general conditions. (b) In certain cases no improvement was seen after a trial, sometimes extending over five months, with the regular use of a bath of as much as thirty minutes' duration, given daily except on Sunday. (c) In several instances the baths had to be abandoned owing to loss of weight, or to their being followed by pyrexia or fatigue. (d) Healing took place later, in some cases three months and longer after the light had been discontinued. (Figs. 1 and 2.) (e) In eleven cases there was no improvement, or progress was so slow that the galvano-cautery was employed; healing was then secured in all the eleven cases. (Figs. 3, 4, and 5.) (One case had, in addition, an artificial pneumothorax.) (f) In three cases an artificial pneumothorax was performed. We have previously shown that a well-marked case of laryngeal tuberculosis, unaltered or worse after some months of silence, may be completely healed three months after the performance of an artificial pneumothorax.³ (g) Deducting all such cases, we find that there were only seven out of the twenty-four cures in which, in addition to sanatorium regime and voice rest, light was the only other treatment.

TEST CASES

The most rapid healing occurred in three months. The patient was a woman of 41, with a unilateral pulmonary lesion, chiefly pleuritic. (Fig. 6.) In the second case a cure was effected in five months—not a rapid result. The patient was on whispers all the time (there was no voice change), the lesion being a limited interarytenoid deposit. The third case was well in four months. The laryngeal lesion was limited, superficial, and one-sided, but the patient lost weight while undergoing the treatment, and his larynx relapsed afterwards. The treatment appeared to suit the larynx in the fourth case; it was healed in six months, but the patient lost weight, and left to have a pneumothorax performed elsewhere.

The larynx had not healed at the end of four months in the fifth case, a man of 32, with an irregular interarytenoid deposit, although tubercle bacilli had disappeared from his sputum, and his pulmonary signs (chiefly pleuritic) showed arrest. Three months later the larynx was clear. In the sixth case, a man of 56, only the epiglottis was affected with a lupoid infiltration. The disease was still present after six months of light treatment, although tubercle bacilli had disappeared and the lung disease was arrested. Four months later, without further treatment, the epiglottis had healed. The seventh case was also a lupoid case. The patient soon lost his tubercle bacilli, and left the sanatorium at the end of five months with the larynx much improved. Three months later it was healed, but the laryngeal disease recurred two years later, and again healed, this time without light baths or treatment other than voice rest and sanatorium regime. (Fig. 7.)

CONCLUSION

In thirty-two favourable cases there were no striking evidences of benefit from light treatment; in only two or three might some help from it be claimed. Nor can it be said that healing of laryngeal tuberculosis was hastened, or that the course of light baths in any way rendered subsequent cure by the cautery more rapid or more certain. Quite as good results have been obtained, and just as swiftly, with voice rest, sometimes supple-

mented with the galvano-cautery or artificial pneumothorax, and, in all cases, the sanatorium regime.

The whole picture of tuberculosis is so remarkably changed for the better under sanatorium conditions that many remedies which appear to be beneficial under ordinary hospital or home conditions are found to add nothing to the improvement wrought by hygienic living in unvitiated air. Hence the number of "negative findings" with many new remedies when tried in a sanatorium. Under other conditions it is possible they may be of help—by suggestion if not otherwise. The constant medical supervision and control available at Midhurst has enabled us to see the possible drawbacks, and even dangers, of light treatment if not carefully and regularly watched. Since the above series was ended in November, 1929, we have continued to try this remedy in well-selected cases, and the conclusion still is that, while it may appear to be of help in a very few cases, it probably acts only by suggestion; that it is fraught with danger if not scrupulously supervised; and that, on the whole, in patients in a well-ordered sanatorium it is no addition to the treatment at present in use.

REFERENCES

- ¹ Thomson, StClair: *Tuberculosis of the Larynx: Ten Years' Sanatorium Experience*, H.M. Stationery Office, 1924.
- ² Idem: *Tuberculosis of the Larynx: Treatment with the Galvano-Cautery*, *Lancet*, 1926, i, 1084.
- ³ Thomson, StClair, and Trail, R. R.: *Tuberculosis of the Larynx and Artificial Pneumothorax*, *Lancet*, 1927, i, 963.

THE RADIOTHERAPY OF CARCINOMA OF THE UTERUS*

WITH ESPECIAL REFERENCE TO X-RAY TREATMENT

BY

PROFESSOR FRIEDRICH VOLTZ

PRINCIPAL OF THE RADIOLOGICAL INSTITUTE, UNIVERSITÄTSFRAUKLINIK,
MUNICH

I am exceedingly happy to have the honour of addressing this Section of the British Medical Association on the occasion of its Centenary Meeting, and I should like to express my heartiest thanks. I fully realize that the honour done to myself is a recognition of the work of the gynaecological clinic of Munich University and of its Director, Professor Albert Döderlein. This work has opened up new avenues in the radiotherapy of uterine carcinoma, and its value has been acknowledged in the appointment of the clinic to serve, with the Radiumhemmet of Stockholm and the Institut du Radium of Paris, on the Commission appointed by the Hygiene Section of the League of Nations to study the radiological treatment of carcinoma.

A. Döderlein made the first attempt on these lines in 1903, when he endeavoured unsuccessfully to cure inoperable carcinomata of the uterus with a preparation of radium. Since 1912 he has treated every patient admitted to the clinic by radiotherapy alone, and has entirely given up the radical operation. The number of cases of carcinoma of the uterus treated in the succeeding twenty years has amounted to 3,000, and his experience with these large numbers has enabled him to assert definitely that radiological treatment does everything that radical surgery can do, while it is less dangerous and less drastic; moreover, it can be of use where operation is impossible. As a result of his experience Döderlein has written:

"I have long maintained that the day of the dangerous and drastic radical operation is over. If it is possible to treat women by a much simpler, a safe, and a painless method, with as much prospect of success, this method must be given preference over the knife."

*Read in opening a discussion in the Section of Obstetrics and Gynaecology at the Centenary Meeting of the British Medical Association, London, 1932.