A follow-up study on 25 cases of larynx cancer treated by laryngofissure operation

Shigeo Takahara*
A follow-up study on 25 cases of larynx cancer treated by laryngofissure operation*

Shigeo Takahara

Abstract

In Japan, laryngofissure technique applied for the larynx cancer made its debut comparatively late, as compared with that in Europe and America. Namely, the laryngofissure was first used in the treatment of larynx cancer in 1931 by Prof. F. Tanaka and that was the first time this technique had ever been used in Japan, as far as in author's knowledge. This author had a good fortune to witness that first operation as his assistant.

*Copyright ©OKAYAMA UNIVERSITY MEDICAL SCHOOL
A FOLLOW-UP STUDY ON 25 CASES OF LARYNX CANCER TREATED BY LARYNGOFISSURE OPERATION

Shigeo TAKAHARA

Department of Oto-Rhino-Laryngology, Okayama University Medical School
Okayama, Japan. (Director: Prof. S. Takahara)

Received for publication, April 22, 1959

In Japan, laryngofissure technique applied for the larynx cancer made its debut comparatively late, as compared with that in Europe and America. Namely, the laryngofissure was first used in the treatment of larynx cancer in 1931 by Prof. F. Tanaka and that was the first time this technique had ever been used in Japan, as far as in author’s knowledge. This author had a good fortune to witness that first operation as his assistant.

The first case was male 49 years old then. Fortunately the first operation resulted satisfactorily and that person, because of the retained useful voice, had occupied several responsible positions such as director and president of business firms, and he is still active and holding an important position at respectable age of 76 years old, all on account of laryngofissure.

With this first case as the starting point, for the past 27 years all together 25 cases (Fig. 1) have been treated by this laryngofissure technique in the Department of Oto-Rhino-Laryngology, Okayama University Medical School. Although the total number may appear too small at a glance, the author has been able to follow up intimately those cases by himself as the successor to Prof. Tanaka from the very first case to the 25th case. Believing this to be quite significant, the results of those laryngofissure cases are presented here.

Of the total 25 cases as shown in Fig. 1, there are 21 cases with lapse of time over 5 years after the operation. In the figure white circle stands for living person and dark circle for dead. In this table it is interesting to note that the cause of death in those who survived more than 5 years after laryngofissure operation are carcinogenic origin other than larynx cancer, namely, one stomach cancer, one pulmonary cancer, and one liver cirrhosis probably of the carcinogenic origin.

Classifying these 21 cases (Fig. 2), there are 12 cases of complete cure, still living, and 3 cases, composed of one cured but died of pulmonary cancer 20 years postoperative, one with liver cirrhosis 7 years post-
operative, and another with stomach cancer 6 years postoperative. Therefore, these 3 cases surviving over 5 years can be considered as successful cases. This makes the total successful cases 15 or 72%. Other 3 cases had recurrence and were laryngectomied 9 months, 5 months, and 4 years respectively after operation. These are recurrent or unsuccessful cases. Still other 3 cases died of another cause within 5 years, so these are doubtful cases. Even if the doubtful cases are put in the unsuccessful category, still 72 per cent are permanently cured.

As is well-known there are two techniques for laryngofissure; namely, clipping technique and anterior commissure technique. The latter originally devised by Chevalier L. Jackson. Following up the prognosis in the 21 cases with lapse of 5 years or more after the operation with respect to the operation technique and the prognosis, the results are as shown in Fig. 3.

Subdividing 15 cases of clipping technique, 8 are completely cured and living, while 2 cured but died of another disease... 6 and 20 years
Takahara: A follow-up study on 25 cases of larynx cancer treated by

Larynx Cancer

Fig. 2. Results of laryngofissure in 21 cases followed up over 5 yrs. after operation

12 cases completely cured and living
3 cases cured, but died of another disease
  pulmonary cancer ..... 20 yrs. postop. 15 - successful case
  liver cirrhosis 7 yrs. postop.
  stomach cancer 6 yrs. postop.

3 cases had recurrence, but living
  laryngectomied ..... 9 mon. postop. 3-recurrent case
  laryngectomied 5 mon. postop.
  laryngectomied 4 yrs. postop.

3 cases died of another cause within 5 yrs. after op.
  war casualty ..... 2 yrs. postop. 3-doubtful case
  supp. pleurisitis 4 mon. postop.
  bronchial cancer 3 mon. postop. 21

respectively after operation (Case 2, 4). These are successful cases and the total of 10 makes 67%. Two recurrent cases make 13%; and doubtful 3 cases make 20%.

As for 6 cases of the anterior commissure technique, 4 are completely cured and living. One was cured, but died of liver cirrhosis 7 years after operation. So the last one can be included in the successful case, making the total of 5 cases, namely, 83% successful. One case had recurrence 4 years postoperative.

Fig. 3. Operation technique and results in 21 cases followed up over 5 yrs. after laryngofissure

Clipping technique——15 case
  completely cured and living  6) — 10—successful case 67%
  cured, but died of another disease 2) — recurrent case 13%
  had recurrence, but living after laryngectomy 2
  died of another cause within 5 yrs. after op. 3 —doubtful case 20%

Anterior commissure technique——6 cases
  completely cured and living 4) — 5—successful case 83%
  cured, but died of liver cirrhosis 7 yrs. after op. 1
  had recurrence 4 yrs. after op., but living after laryngectomy 1

As for the indication for the application of these two techniques, namely, clipping and anterior commissure techniques, the following indications have been used.

Firstly, for the case whose tumor is small and circumscribed on one side of vocal cord, free from the anterior commissure and vocal process, and its mobility is maintained close to normal, clipping technique is used (Fig. 4).
Secondly, for the case in which tumor is located in the anterior area, two thirds of the vocal cord and is slightly touching the anterior commissure, or is suspected of extending slightly beyond the anterior commissure, and the mobility of the vocal cord is kept in fairly good condition, the anterior commissure technique was used as shown in Fig. 5. This is a slightly more advanced case than the case indicated for the clipping technique, and for such cases formerly laryngectomy had been performed until 1949 when the author read the article by Jackson.

Considering the results of laryngofissure, on the whole, permanent cure 72% seems to be a fairly good result. Solely for the anterior commissure technique it is 83%. At any rate, the author highly recommends to use selectively this laryngofissure for the treatment of larynx cancer. However, from past experiences, it appears that a great care need be exercised before performing this operation. Namely, the larynx tumor should be thoroughly examined for the size, extent of it growth, because often the superficial examination will fail to reveal the actual size and extent of the tumor growth, especially in the subglottic area. If the case examined is not certain of extent of tumor growth, a direct laryngoscope should be used for a more thorough examination to grasp the actual picture.
Next important thing to bear in mind is to make histological examination of the excised tissue immediately after operation to see whether or not the tissue contains the whole tumor. Fig. 6 shows excised tissue by anterior commissure technique, containing the tumor. In case even a portion of the tumor is suspected to be left, the laryngectomy must be restored to at once without hesitation.

In the day when extensive operation in the treatment of larynx cancer is coming to be more widely used, the author would place a special emphasis on the possibility of obtaining such a fairly good result as 70% or 80%, as has been already stated, by laryngofissure for carefully selected cases. Although this technique seems to be the most favorable approach for the retention of practical voice, unfortunately few cases are encountered in the stage early enough to attain desired results. Looking back the number of the operated larynx cancer in the Department of Oto-Rhino-Laryngology, the number of laryngofissure is 25 during 27 years, while the number of laryngectomy is 162 during 20 years. This means only about one case a year in the laryngofissure, while about 8 cases a year in
the laryngectomy. Therefore, the author wishes to add that laryngologists should endeavor to find more cases in the early stage and have the public realize the necessity of the early examination.

Read at the 7th International Congress in Kyoto, Japan, Sept. 13, 1958.

REFERENCES

1. TANAKA, F.: Über die Behandlung des Kehlkopfkrebses; *Jibi-inkoka*, 5, 6, 1932.
5. JACKSON, Ch. L.: Laryngofissure for cancer of the larynx ... observations based on a series of fifty consecutive cases, *Archives of Otolaryngology*, 33, 4, 1941.