

原文題目(出處)：	Radiotherapy with or without chemotherapy for patients with T1-T2 glottic carcinoma: retrospective analysis
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內文：

Background

- Glottic carcinoma (GC)是最常見喉部的癌症，因為聲音會沙啞所以可以早期就被發現。
- RT is the preferred therapeutic method in early GC.
- TNM 分期：
T1 a：腫瘤最大直徑不超過 2 公分 (Tumor \leq 2 cm)
T1b：腫瘤最大直徑超過 2 公分，但是不超過 3 公分。(Tumor >2 cm but \leq 3 cm)
T2：腫瘤最大直徑超過 3 公分，但是不超過 7 公分。
- The purpose of this study was to review retrospectively our experience in the treatment of T1 and T2 GC through RT with or without chemotherapy from 2001 to 2006.

Methods

Patient characteristics

- 58 patients who had undergone radical RT with or without chemotherapy to the larynx for Stage I-II GC (T1-T2)
- Patients were treated at Nagoya University Hospital between January 2001 and April 2006

Table 1 Patients characteristics

	n	percentage
Total no. of patients	58	100
Age median (range)	64 y.o. (44-92)	
Male/Female	55/3	95/5
Performance status (ECOG)		
0-1	56	96
2	2	4
Histology		
squamous cell carcinoma	58	100
Stage		
T1a	24	41
T1b	13	22
T2	21	36

- All patients were followed for a median period of 48 months (range, 13-84 months) or until death.

Treatments detail

Radiotherapy

Table 2 Radiation therapy

	n	percentage		
Conventional	54	93		
	Dose range	18-82Gy	Median	70Gy/35fx
AFX-CB	3	5		
	Dose range	60.8-76Gy	Median	67Gy
Accelerated hyperfractionation	1	2		
	Dose range	60Gy	Median	60Gy/40fx

AFX-CB: accelerated fractionation with concomitant boost

- Thirty-nine patients were treated with RT alone; 19 received RT and chemotherapy.

Chemotherapy

Table 3 Chemotherapy and these regimen

	With chemotherapy	Radiation alone	total
	n (%)	n (%)	n
T1a	1 (4)	23 (96)	24
T1b	4 (30)	9 (70)	13
T2	14 (67)	7 (33)	21
Regimen	n (%)		
Low dose CDDP	4 (21)		
Low dose CDDP/5FU	5 (26)		
High dose CDDP/5FU	5 (26)		
Carboplatin	2 (10)		
Alternative CDDP/5FU	2 (10)		
UFT(oral antidrug)	1 (5)		

- CDDP : cisplatinum

- Low dose of CDDP : consisting of 60-min administration of CDDP at a dose of 5 mg/body after RT.
- Low-dose CDDP/5-FU : continuously administered via different routes through a catheter placed in the central vein.
- High dose of CDDP/5-FU : continuous infusion of 5-FU at a dose of 700 mg/m²/day on days 1-4, combined with a 2-hr infusion of CDDP at a dose of 70 mg/m²/day on day 1.
- The daily dose of 5-FU was given at 200 mg/m², and that of CDDP was 4 mg/m².
- CDDP and 5-FU were administered for 24 hr every day, except Saturday and Sunday, from the day irradiation was started.
- In three patients treated with chemoradiotherapy (two cases) or RT alone (one case), tumor responses were very poor. For these patients, treatments were discontinued at 18 Gy, 36 Gy, and 52 Gy, and partial laryngectomies were performed.

Statistical Analysis

- Local control (LC) and total laryngectomy-free survival were assessed from the beginning of RT until evidence of recurrence or until laryngectomy.
- In the univariate analysis, the variables analyzed included age (63 > vs. ≤ 63), T category (T1 vs. T2), overall treatment time (> 49 vs. ≤ 49), and chemotherapy (combined. vs. not combined).

Follow-up

- After RT alone or combined with chemotherapy, the patients were evaluated at 1-month intervals for the first year, at 2-month intervals during the second year, every 3 months during the third year, every 4 months during the fourth year, and every 6 months thereafter.
- The patients who presented with recurrence of disease in the follow-up time submitted to salvage treatment by total or partial laryngectomy.

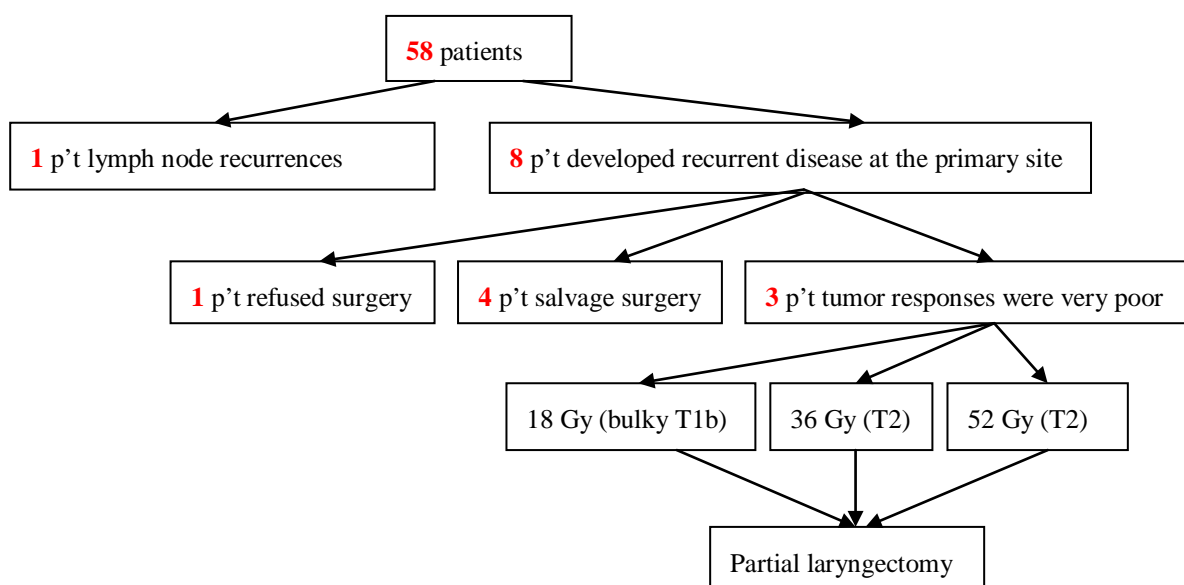
Results

Local control and patterns of failure

Table 4 Local control rate and survival according to the T stage

	T1a	T1b	T2
5-year local control rates without surgery	85.9%	83%	85.1%
5-year local control rates after surgery	100%	90.9%	95.2%
5-year Overall survival	91.6%	77.8%	89.9%
5-year Cause-specific survival	100%	87.5%	95.2%

- For all 58 patients, the 5-year LC rate was 84.3%. The 5- year LC rates for T1a, Tb, and T2 were 85.9%, 83%, and 85%, respectively. The difference between the sub-stage LC rates was not statistically significant.



Overall survival (OS) and cause-specific survival (CSS) Rates

- The 5-year OS rate for all patients was 88.1%, and the 5-year OS rates for T1a, Tb, and T2 were 91.6%, 77.8%, and 89.9%
- The 5-year CSS rate in the 58 patients was 95.8%, and the 5-year CSS rates for T1a, Tb, and T2 were 100%, 87.5%, and 95.2%.

Univariate analysis

Table 5 Univariate Analysis (in 55 patients)

parameter	5-year local control rate(%)	P-value
Stage		
T1N0 (n = 36)	86.8	0.51
T2N0 (n = 19)	94.1	
Overall treatment times		
> 49 days (n = 27)	91.4	0.88
≤ 49 days (n = 28)	87.7	
Chemotherapy		
combined (n = 17)	93.7	0.52
none (n = 38)	86.5	
Age		
> 63 y.o. (n = 27)	92.5	0.75
≤ 63 y.o. (n = 28)	86.1	

- Results of univariate analysis showed no statistical significance for any of the variables.

Complications

- There were no severe acute complications
- No late complications such as chondronecrosis were seen, and no patients required hospitalization due to complications.

Second primary cancers

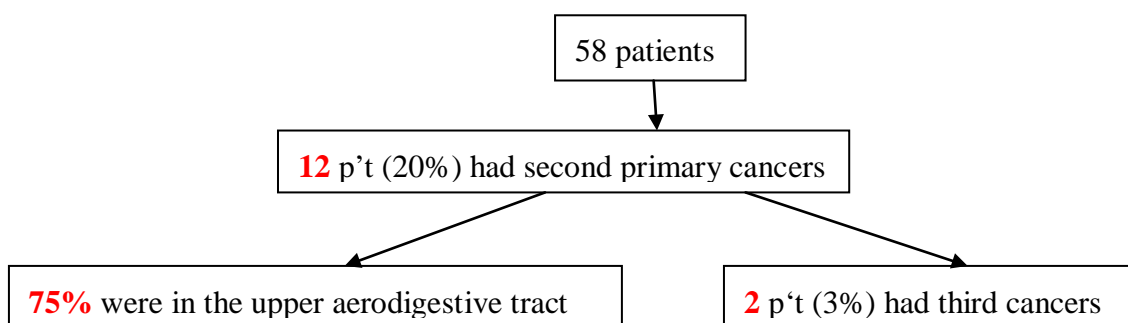


Table 6 Incidence of secondary primary cancers in this study

Primary site	number	percentage
thyroid	2	15
oropharynx	1	7.7
hypopharynx	1	7.7
esophagus	2	15
stomach	2	15
lung	3	20
liver	1	7.7
colon	3	20
Total	15	100

- The 5-year survival rate in 12 patients with double primary cancers was 74.0%, and that in 46 patients without double or triple cancers was 92.5% ($p = 0.18$).

Discussion

- The difference between the sub-stage LC rates was not statistically significant.
- In the univariate analysis for combined chemotherapy for LC, the difference had no statistical significance.
- Several analyses of the risk of local failure after RT for early GC have shown the probability of success to be closely related to the volume or bulk of the lesion
- Recent studies have shown an improvement in LC for patients with T1 and T2 GC when total radiation is delivered in a shorter overall treatment time with a high-dose fractionation or hyperfractionation schedule.
- In contrast, several other reports have indicated that chemoradiation for T2GC is promising and that LC rates are higher than those for RT alone in Japan.
- Therefore, we conducted chemoradiation for bulky T1 and T2 GC with the intent to improve LC. The 5-year LC rate with chemoradiation was 93.7%. The result was favorable, but the difference had no statistical significance.
- Many recent studies have suggested novel markers of radiosensitivity, such as DNA ploidy, expression of epidermal growth factor, p53, Bcl-2, and microvessel density.
- The biological effects of ionizing radiation are critically dependent on the existence of oxygen in tissues, which may be another reason for the poor responses.

- If poor responses to radiotherapy with or without chemotherapy can be predicted, surgery or another procedure may be selected.
- In the present study, a second malignancy occurred in more than 20% of the cases, 75% of which were in the upper aerodigestive tract.
- The prognoses for patients with a second malignancy were poorer than those of patients with a single malignancy, though the difference was not statistically significant.

Conclusions

- By means of radiotherapy with or without chemotherapy, we achieved a high rate of LC in patients with T1-T2 GC. Although the combination therapy yielded the most favorable results, there was no statistical difference in the LC rates.

題號	題目
1	具有輻射敏感性(radiosensitivity)的細胞，何者除外? (A) 分裂速率快 (B) 細胞數量多 (C) 未來將進行多次有絲分裂 (D) 未分化的原始細胞
答案(B)	出處：Oral Radiology - Principles and Interpretation, 6th Edition, 2009 ,P30
題號	題目
2	放射治療中,高壓氧的使用對於缺氧性腫瘤細胞的效果? (A) 不變 (B) 增加 (C) 減少 (D) 先增後減
答案(B)	出處：Oral Radiology - Principles and Interpretation, 6th Edition, 2009 ,P32