



New Therapeutic Strategies in the Treatment of Stomal Recurrence After Total Laryngectomy:

Role of Immunotherapy

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OBJECTIVES

The aim of this study was to investigate the incidence of stoma recurrence and the therapeutic strategy outcomes in relation to survival that have been adopted over the past few decades using a monoclonal antibody, specifically nivolumab.

METHODS

This study included a total of 487 patients diagnosed with laryngeal carcinoma undergoing either a laryngectomy or salvage surgery after conservative interventions at the ENT Unit of Federico II University in Naples, Italy, between 2011 and 2021. Following a minimum 2.5-year follow-up and a maximum 21-year follow-up, the results revealed that only 38 patients suffered a stomal recurrence.

GRAPHS AND TABLES

Table 1. Total laryngectomy: Number of cases.

Total laryngectomy	N° cases
T.L. d'emblée	377 (77.4%)
T.L. after traditional supraglottic laryngectomy	13 (2.7%)
T.L. after CO2 laser cordectomy	69 (14.2%)
T.L. after traditional cordectomy	13 (2.7%)
T.L. after supraglottic cordectomy with CO2 laser	7 (1.4%)
T.L. after hemilaryngectomy	7 (1.4%)
T.L. after radiotherapy	1 (0.2%)
Total	487 (100%)

Table 2. Subdivision of patients according to pTNM (n = 487; all patients = MO).

	N0	N1	N2	N3	Total
T2	12 (2.5%)	3 (0.6%)	4 (0.1%)	1 (0.2%)	20 (4.1%)
T3	202 (41.5%)	58 (12%)	47 (9.7%)	9 (1.8%)	316 (64.9%)
T4	69 (14%)	35 (7%)	35 (7.2%)	12 (2.5%)	151 (31%)
Total	283 (58.1%)	96 (19.7%)	86 (17.7%)	22 (4.5%)	487 (100%)

Table 3. Subdivision of patient according to stage and grading.

Stage	N° patients
I	0 (0%)
II	12 (2.5%)
III	262 (53.8%)
IV	213 (43.7%)
Total	487 (100%)
Grade	N° cases
G1	101 (20.7%)
G2	106 (21.8%)
G3	280 (57.7%)
Total	487 (100%)

Table 5. Stomal recurrence after surgery.

Surgery	N° patients	N° SR
T.L. d'emblée	377	20 (5.3%)
T.L. after traditional supraglottic laryngectomy	13	0
T.L. after CO ₂ laser cordectomy	69	14 (20.3%)
T.L. after traditional cordectomy	13	1 (7.6%)
T.L. after supraglottic cordectomy with CO ₂ laser	7	1 (14.2%)
T.L. after hemilaryngectomy	7	2 (28.5%)
T.L. after radiotherapy	1	0
Total	487	38 (7.8%)

Table 6. Incidence of stomal recurrence in relation to the tumor site and T staging.

T site	Stomal recurrence	T3	T4
Pharyngo-laryngeal	3 (7.9%)	0 (0%)	3 (15 %)
Supraglottic	0 (0%)	4 (22 %)	3 (15 %)
Glottic	7 (18.4%)	11(61%)	8 (40%)
Glottic-hypoglottic	19 (50%)	3 (17%)	6 (30%)
Hypoglottic	9 (23.7%)	18 (100 %)	20 (100%)
Total	38 (100%)	T3	T4

Table 4. Therapeutic strategies for SR and survival in months.

Patient N°	Surgery	RT	CT	Immunotherapy	Survival (months)
1			X		1
2	X				1
3	X				3
4		X			15
5	X	X			12
6	X				14
7			X		3
8			X	X	5
9			X	X	6
10			X		2
11	X				1
12			X		4
13			X		2
14			X	X	4
15			X		4
16			X		15
17	X	X			15
18			X		5
19			X		5
20	X	X			6
21			X		8
22			X		8
23	X				66 (still living)
24			X		8
25	X	X			58
26				X	7
27				X	3
28	X			X	24 (still living)
29			X	X	26
30				X	6
31				X	2
32				X	5
33				X	6
34	X			X	4
35	X			X	11
36	X			X	13
37				X	24 (still living)
38				X	10



Figure 1. (A-D): Stomal recurrence before and during immunotherapy.

RESULTS

Despite various adopted treatment strategies, the literature reports lower patient survival rates. Following a total laryngectomy, stomal recurrence represents a therapeutic management challenge due to a poor prognosis for nearly every treated case. According to the literature, in fact, despite a low incidence (ie, 0.8–31.3%), the overall mortality rate increases from 77% to 100% after three years. Nevertheless, introducing immunotherapy into cancer treatment has resulted in an observable revolution in the treatment of different types of cancers over the years. Conclusion: In light of recorded data on survival following the use of the nivolumab, the case presented in this study allows a new perspective of successfully treating recurrences of squamous carcinoma of the head and neck.

CONCLUSION

In light of our findings, it is evident that conservative surgery, subglottic involvement by primary neoplasm, an advanced T stage, and an emergency tracheotomy were all statistically associated with peristomal relapses, the prognosis for which is decidedly dismal, even when the most precise therapeutic measures currently available; as such, it is essential that preventive measures are implemented at the time of the primary tumor intervention. In the event of inevitable risk factors in this context, immunotherapy leads to new therapeutic possibilities, especially when surgery and chemotherapy fail, and a standardized protocol with stringent eligibility requirements is needed. The survival data obtained with nivolumab in the present case provides a new perspective on the possibility of successfully treating SCCHN recurrences, even in the rare-but-ominous event of a peristomal recurrence.

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