



Craniofacial resection for nonmelanoma skin cancer of the head and neck

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INTRODUCTION

Nonmelanoma skin cancers are the most common type of cancer in humans and they are very prevalent in the head and neck region. Surgical resection is the most effective treatment and advanced tumors may require extensive and craniofacial approaches. Clinical factors related to worse outcomes may affect therapeutic decision making and oncological results.

METHODS

Retrospective chart analyses of patients submitted to craniofacial resections for nonmelanoma skin cancer at Instituto do Câncer do Estado de São Paulo, Brazil, from January 2009 to December 2018. Inclusion criteria were patients with biopsy proven non melanoma cutaneous malignancy at head and neck region with local advanced staging.

RESULTS

Table 1. Patient and tumor characteristics.		
VARIABLE		N (%)
Age	Mean ± Standard-Deviation	68.64±13.7
Gender	Male	40 (76.92)
	Female	12 (23.08)
Previous Treatment	No	27 (51.92)
	Surgery alone	23 (44.23)
	Surgery + chemo/radiation	2 (3.85)
ASA Classification	I	1 (1.92)
	II	23 (44.23)
	III	28 (53.85)
Histological type	Squamous cell carcinoma	37 (69.81)
	Basal cell carcinoma	9 (16.98)
	Sarcoma	2 (3.77)
	Other	5 (9.43)
Surgical margins	Clear	29 (54.72)
	Positive	24 (45.28)
Vascular invasion	Absent	49 (94.23)
	Present	3 (5.77)
Perineural invasion	Absent	26 (50)
	Present	26 (50)
Bone invasion	Absent	22 (42.31)
	Present	30 (57.69)
Dural invasion	Absent	37 (71.15)
	Present	15 (28.85)

Table 2. Complication, recurrence and death rates.		
VARIABLE		N (%)
Clinical Complications	Absent	37 (71.15)
	Present	15 (28.85)
Surgical Complications	Absent	31 (59.62)
	Present	21 (40.38)
Type of Surgical Complications	Wound dehiscence	9 (17.31)
	Bleeding	4 (7.69)
	Flap loss	6 (11.54)
	Wound infection	12 (23.08)
	Unexpected neurological deficit	3 (5.77)
	CFS fistula	3 (5.77)
Reoperation < 30 days		18 (33.96)
Local recurrence		15 (28.85)
Death		26 (50)

Table 3. Univariate Cox Regression for Factors Potentially Related to Overall Survival			
Univariate Cox Proportional Hazard	Hazard ratio	95% CI	P-value
Age	1.00	0.96-1.05	0.924
Sex	0.72	0.25-2.08	0.543
Comorbidities	0.74	0.29-1.87	0.531
Previous treatment	1.14	0.6-2.12	0.69
Clinical complications	2.17	0.85-5.52	0.105
Pneumonia	4.75	1.2-18.7	0.026
Surgical complications	2.21	0.91-5.34	0.077
Flap loss	13.92	1.95-99.3	0.009
Surgical site infection	2.95	0.85-10.2	0.08
Vascular invasion	1.86	0.23-14.6	0.24
Perineural invasion	0.91	0.37-2.23	0.84
Bone invasion	1.93	0.74-5.03	0.178
Dural invasion	1.12	0.53-2.38	0.768
Local recurrence	0.96	0.38-2.42	0.93

Table 4. Univariate Cox Regression for Factors Potentially Related to Local Recurrence			
Univariate Cox Proportional Hazard	Hazard ratio	95% CI	P-value
Age	0.97	0.93-1.01	0.241
Sex	1.52	0.34-6.82	0.582
Comorbidities	2.00	0.54-7.36	0.294
Previous treatment	1.41	0.73-2.75	0.306
Vascular invasion	3.9	0.46-32.9	0.21
Perineural invasion	1.2	0.41-3.46	0.735
Bone invasion	2.69	0.84-8.65	0.096
Dural invasion	1.28	0.54-3.03	0.577
Adjuvant radiotherapy	0.71	0.24-2.06	0.536

CONCLUSION

Nonmelanoma skin cancers with skull invasion are a therapeutic challenge in head and neck surgery. Tumors extending deeper than the aponeurotic galea are associated with worse prognosis and adjuvant radiotherapy was a protective factor for overall survival.