

POSITIVE CORRELATION BETWEEN NEOADJUVANT CHEMOTHERAPY
RESPONSE AND IRRADIATION EFFECT IN HEAD AND NECK CANCERS :
RETROSPECTIVE ARGUMENTS AND PROSPECTIVE VALIDATION.

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Neoadjuvant chemotherapy has been administered before exclusive irradiation to 181 previously untreated patients with head and neck cancer (7% stage I, 14% stage II, 24% stage III and 55% stage IV; mainly 92 oropharynx, 59 larynx, 54 buccal cavity and 39 hypopharynx). A combination of bleomycin (10 mg), cis-platinum (15 mg), etoposide (100 mg), fluorouracil (250 mg) and ifosfamide (500 mg) was given on days 1, 3, 5; 15, 17, 19 and 29, 31, 33. A major response was obtained in 70% of cases with minimal toxicity. Full dose irradiation (63 Grays equivalent) was delivered within a 2 weeks delay with unchanged tolerance and maximum compliance. Logistic discrimination analysis showed that the prominent parameter ($p < 0.00001$) of tumour control after radiotherapy was the magnitude of response to chemotherapy (subdivided into 3 degrees : I = 100% to 75% of tumour reduction, II = 75% to 50% and III = 50% to 0%).

		control after radiotherapy (%)		
		I	II	III
all patients	(178)	94	69	38
all tumours	(172)	100	91	52
T1	(23)	100	100	83
T2	(53)	100	96	63
T3	(43)	100	93	20
T4	(53)	100	83	43
all nodes	(84)	84	53	33
N1	(32)	100	77	67
N2	(25)	71	44	11
N3	(27)	75	33	10

A mathematical model has been developed giving the probability of achieving a complete clearance of disease by exclusive irradiation. The prognostic value of chemotherapy response was validated prospectively in a further serie of 35 patients. Whereas a control rate of 77% is globally observed, predictive scores allow to individualize with significant reliability several patients subsets whose control rates range from 100% to 50% and less.

Neoadjuvant chemotherapy may therefore be of value to select radiocurable cases and avoid undue mutilating surgery.