

Prospective Evaluation of Neck and Shoulder Function Following Treatments of Early-Stage Human Papillomavirus-Associated Oropharynx Cancer

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BACKGROUND

Radiation (XRT) and neck dissection (ND) affect shoulder function, but limited data directly comparing between therapeutic modalities for HPV+OPSCC

METHODS

- Patients longitudinally completed Neck Dissection Impairment Index (NDII)
- 10 questions scored 1-5, total 0-100; higher scores= better function

RESULTS

- Score decrease at 3 months in all groups that resolved by 1 year, no differences between groups
- Minority with clinically significant score difference (18.1 points)

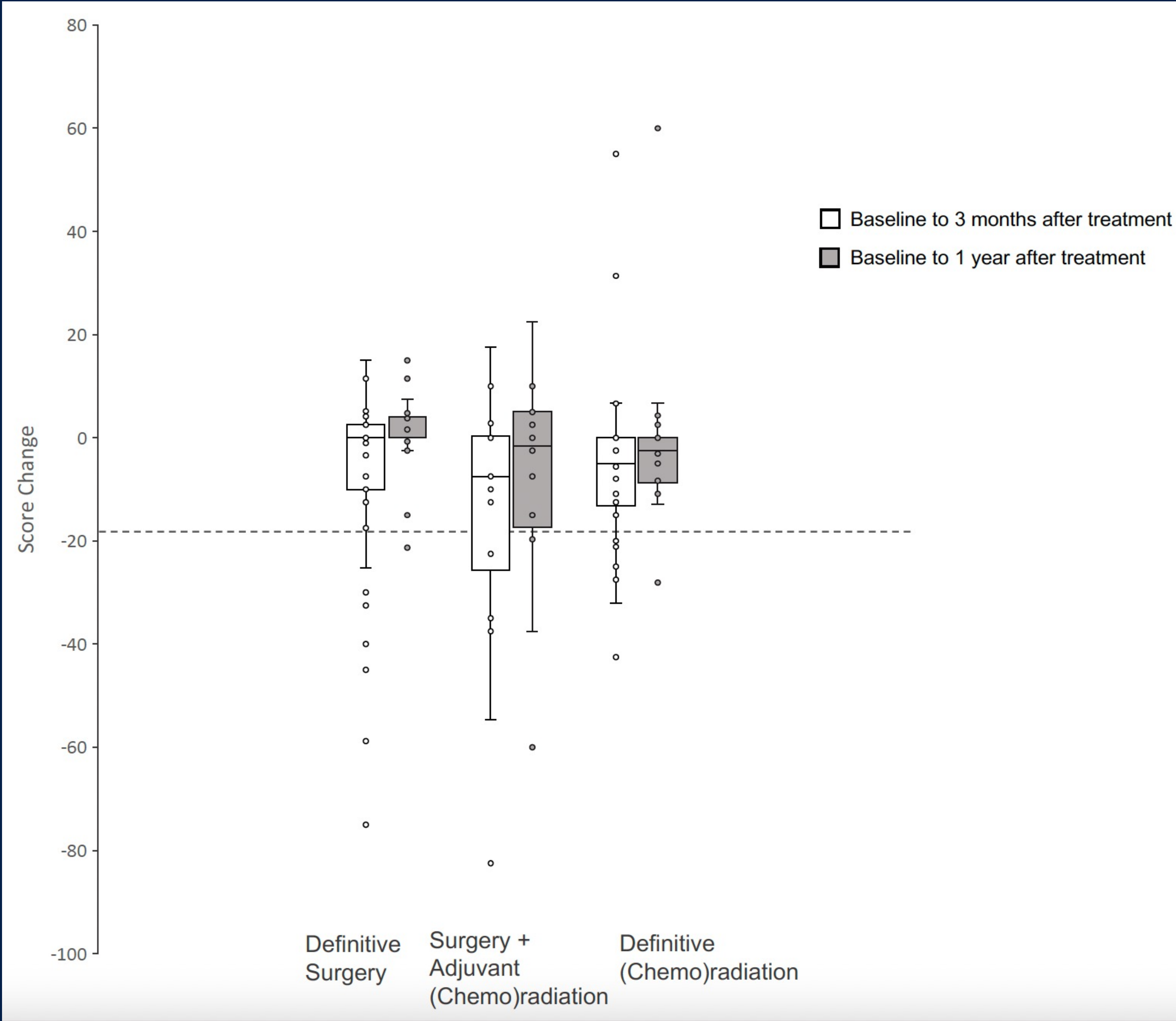
DISCUSSION

Some HPV+OPSCC patients will experience mild neck and shoulder dysfunction without pain at 3 months post-treatment that usually improves to baseline at 1 year. Possible mild and clinically significant shoulder stiffness may persist at one-year for a minority of S+d[C]RT patients.

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Patients treated for HPV+ oropharyngeal squamous cell carcinoma experience mild, short-term neck and shoulder dysfunction, which improves by one year, regardless of treatment modality.



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Table 1. Demographic and tumor characteristics

	Surgery (n=46)		Surgery + [C]XRT (n=18)		[C]XRT (n=42)		p
	N	%	N	%	N	%	
Male	41	89.1	16	88.9	34	81.0	0.62
Age (mean)	64.9	-	59.6	-	63	-	0.20
Smoking History	23	50.0	8	44.4	28	66.7	0.20
Primary Site							0.11
BOT	21	45.7	3	16.7	17	40.5	
Palatine tonsil	19	41.3	14	77.8	23	54.8	
GTS	1	2.2	0	0.0	1	2.4	
Unknown primary	5	10.9	1	5.6	1	2.4	
AJCC T stage							0.33
T0/TX	5	10.9	1	5.6	2	4.8	
T1	22	47.8	9	50	15	35.7	
T2	19	41.3	7	38.9	22	52.3	
T3	0	0.0	1	5.6	3	7.1	
AJCC 7th edition - N stage							0.004
N0	6	13.0	2	11.1	5	11.9	
N1	19	41.3	1	5.6	11	26.2	
N2a	9	19.6	2	11.1	7	16.7	
N2b	10	21.7	12	66.7	13	31.0	
N2c	0	0.0	0	0.0	6	14.3	
N3	2	4.4	1	5.6	0	0.0	

Table 2. Treatment characteristics

	Surgery		Surgery + [C]XRT		[C]XRT		p
	N	%	N	%	N	%	
ND Laterality							0.017
Ipsilateral	30	65.2	17	94.4	-	-	
Bilateral	16	34.8	1	5.6	-	-	
Neck Levels Treated							0.61
I	18	39.1	6	33.3	-	-	
II/III	46	100	18	100	-	-	
IV	45	97.8	17	94.4	-	-	
V	0	0	1	5.6	-	-	
CN XI Sacrifice	0	0	0	0	-	-	
XRT Dose							<0.001
70 Gy	-	-	1	5.6	28	66.7	
66 Gy	-	-	6	33.3	2	4.8	
<66 Gy			11	61.1	7	16.7	
XRT Laterality							0.015
Ipsilateral	-	-	11		10	23.8	
Bilateral	-	-	7	38.9	27	64.3	
Adjuvant Chemo	-	-	9	50	32	76.2	