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Table 3: Comparison of radiology series examining the prevalence of RP lymph node involvement in oropharyngeal carcinoma

	Patient group	Imaging modalities	Rate of positive RP LN	Comments
Current series	402 oropharynx cancer patients, 85% p16+ve (when p16 status available), 37% T3/4, series 2010-17,	PET-CT 100%	Overall 40/402 (10%) p16+ve x/y p16-ve p16 unknown	On multivariate analysis RP LN associated with contralateral neck disease
Lin et al. 2019 [6] (*overlapping cohort with Gunn et al. 2013 below)	796 HPV+ve oropharynx cancer patients, 28% T3/4, series 2004-13,	RP LN identified by CT in 66%, PET-CT in 7%, CT and PET-CT in 26%, CT and MRI in 1%	73/796 (9%) +ve RP LN	On univariate analysis RP LN associated with tonsil (13%) v base of tongue (5%) p=0.0003, advanced T stage Bilateral RP LN in 4 patients. Contralateral RP LN without ipsilateral in 7 patients (non-lateralised primary)
Spector et al. 2016 [9]	205 stage III/IV oropharynx cancer patients, (HPV +ve in 171/186 with available data), 51% T3/4, series 2003-10	CT 73% PET-CT 27%	37/205 (18%) +ve RP LN 13% of base of tongue and 22% of tonsil cancer	On multivariate analysis number of metastatic LN was only predictor of RP LN (odds ratio 1.4, p=0.0001)
Baxter et al. 2015 [10]	165 HPV+ve oropharynx cancer patients, 31% T3/4, series 2002-2013	PET-CT 100%	16/165 (9.7%) +ve RP LN	No association with tumour subsite
Gunn et al. 2013 [7] (*Overlapping cohort with Lin et al. 2019 above)	981 oropharynx cancer patients, 36% T3/4, 2001-7,	CT 96% PET 29% MRI 9%	94/887 (10%) +ve RP LN	Univariate association of primary site, T stage, N stage with RP LN All involved RP LN lateral. 8 bilateral RP LN and 1 contralateral RP LN only.
Tang et al. 2013 [8]	164 oropharynx cancer patients, 85% p16+ve, 42% T3/4, series 2005-12	MRI 46% PET-CT 48% CT 6%	p16+ve 16/139 (12%) p16-ve 3/26 (12%)	Univariate association of no. of involved LN, contralateral LN, ipsilateral level I involvement, All RP in lateral group. 2/19 RP LN contralateral (both bilateral N+ neck disease)
Tauzin et al. 2010 [11]	53 orophaynx cancer cases, 58% T3/4, series 2002-8	PET-CT 100%	11/53 (21%) +ve RP LN	Univariate association between RP LN and T stage, N stage
Bussels et al. 2006 [4]	208 oropharynx cancer cases, T3/4 63%, series 1984-2003	CT 100%	34/208 (16%)	Multivariate association of ipsilateral level 2 and contralateral level 3 with RP LN. Centre of all RP LN at level C1/2.

