Received:
27 September 2016

Accepted:
17 October 2016

<https://doi.org/10.1259/bjr.20160772>

Cite this article as:

Li M, Lin Z-X. Nasopharyngeal carcinoma (NPC)—issues in the inclusion of cervical nodal region in radiation treatment volume—author's reply. *Br J Radiol* 2017; **90**: 20160772.

LETTER TO THE EDITOR

Nasopharyngeal carcinoma (NPC)—issues in the inclusion of cervical nodal region in radiation treatment volume—author's reply

MEI LI, MD and ZHI-XIONG LIN, MD

Department of Radiation Oncology, Cancer Hospital, Shantou University Medical College, Shantou, Guangdong, China

Address correspondence to: Dr Mei Li
E-mail: limei00182@139.com

(The Editors do not hold themselves responsible for opinions expressed by correspondents.)

To the Editor,

The incidence of lymph node metastases in nasopharyngeal carcinoma (NPC) is high because of the rich submucosal lymphatic network of the nasopharynx. Elective neck irradiation (ENI) has become the standard practice for radiation therapy (RT) of NPC and covers potential nodal regions that can harbour microscopic disease. Modern imaging techniques (CT, MRI and positron emission tomography) have helped define the nodal regions at risk in NPC. Several investigators have reported that NPC cervical metastasis follows an orderly spreading pattern inferiorly along the neck.¹ A meta-analysis of 2920 patients with NPC staged by MRI showed that the most common regions of nodal metastasis were retropharyngeal nodes (69%) and Level II (70%), followed by Levels III (45%), IV (11%) and VA (26%). The involvement rates of supraclavicular fossae, Level IA and Level IB were low at 3, 0 and 3%, respectively. Several other studies also demonstrated a low incidence of 5% of Level IB metastasis.^{2,3} In addition, skip nodal metastases have been reported to be rare. These data raise the question as to whether it is necessary to include all nodal levels in ENI regardless of the nodal status in patients with NPC. Different treatment centres have developed their own guidelines regarding ENI region delineation and dose definition when applying intensity-modulated radiotherapy to NPC cases, among which Level IB is not routinely included in the prophylactic irradiated target volumes.^{4–6} In our prospective study of omitting ENI to Level IB, the

cohort met all of the criteria for IB ENI based on any of the above guidelines or protocols, and the results demonstrated a low Level IB nodal failure rate (1.6%) after a median follow-up of 41 months.⁷ Based on the results of our single-institution, Phase 2 study, we suggest omitting ENI to Level IB in patients who are IB negative with NPC treated with intensity-modulated radiotherapy. However, further stratification mentioning any possibility of a confounding variable playing any role in such a nodal failure pattern seems impossible because of the not large enough cohort and the extremely low Level IB recurrent rates.

Minimizing the area of the neck that receives RT could potentially reduce the risk of late toxicity and improve the patient quality of life.⁶ Omitting RT to Level IB will allow better sparing of the submandibular glands (SMGs), which are critical for resting salivary function and subjective xerostomia.⁸ Although our study lacked a control group, our data indicate that the rate of xerostomia was low. The threshold the mean dose of 39 Gy to preserve the SMG function, reported by Murdoch-Kinch et al,⁹ may not be feasible in patients with extensive nodal disease, as defined in our study. Nevertheless, the relatively low Level IB failure rate in the present study suggests that further studies should be conducted to investigate whether constraining the mean dose of SMG to 39 Gy is feasible, in an attempt to preserve SMG function in selective patients who are early staged and node negative.¹⁰

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