# Sparing of swallowing-related organs in radiotherapy for oropharyngeal squamous cell carcinoma

## Authors' reply

We thank Rosario Mazzola and colleagues for their interest in the ORATOR trial.[1] They suggest that quality of life after radiotherapy could be improved by reducing the radiation doses delivered to the swallowing organs at risk and the cochlea. Although reducing these doses might seem beneficial, the actual clinical impact is unclear. A randomised trial from 2018 evaluated cochlear sparing in the setting of radiotherapy for parotid cancers, and found that cochlear avoidance did not translate into reduced rates of clinically relevant hearing loss.[2] Similarly, the benefits of sparing of swallowing organs at risk are controversial, with some authors arguing that it should not be part of routine clinical practice.[3] The ongoing dysphagia/aspiration at risk structures (DARS) randomised trial is testing the benefits of sparing of swallowing organs at risk on swallowing outcomes.[4]

Nonetheless, although avoidance of swallowing organs at risk and the cochlea was not mandated in ORATOR, both approaches diffused into clinical practice during the trial. As a result, many ORATOR patients were treated with radiation plans that purposely avoided the swallowing organs at risk and the cochlea. In response to the letter from Mazzola and colleagues, we reviewed the radiation plans of patients in the radiotherapy group treated at the lead centre (London Health Sciences Centre, London, ON, Canada; n=22). Of those, all plans incorporated cochlear avoidance, all incorporated laryngeal avoidance (one of the swallowing organs at risk) and 50% incorporated avoidance of the pharyngeal constrictors. Therefore, most of the benefits of avoidance of these organs, if any exist, are probably already reflected in the ORATOR results.

The authors correctly note that many of the adverse effects in the radiotherapy group are related to the delivery of concurrent chemotherapy. Strategies to decrease the intensity of chemotherapy might provide meaningful benefits to quality of life while preserving oncological outcomes. Lower-intensity weekly dosing of cisplatin is indeed a promising option to preserve hearing,[5] a premise that is currently being tested in the RADIO randomised trial (NCT03649048). Weekly cisplatin was the approach used in one of the groups of the HN-002 de-escalation randomised trial (NCT02254278), compared with a group receiving radiotherapy alone. The chemoradiation group met the prespecified threshold for acceptable progression-free survival and will be tested in the upcoming HN-005 phase 2–3 non-inferiority trial (NCT03952585). A weekly chemotherapy group is also being tested in the ORATOR2 de-escalation trial comparing a primary radiotherapy approach with a primary surgical approach (NCT03210103). We hope that ongoing trials will prove that technological improvements and lower-intensity chemotherapy doses can improve quality of life for our patients, while maintaining treatment efficacy.

We declare no competing interests.

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