

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Available online at

ScienceDirect

Letters to the Editor

Why it is crucial to maintain oral care for patients undergoing head and neck radiotherapy during the COVID-19 pandemic

Dear Editor,

Patients with head and neck cancer (HNC) require care based upon transdisciplinary approaches, which alone allow both treating oncological disease and responding to the adverse effects of anti-cancer therapies that can interrupt treatment and, in turn, threaten patients' survival [1].

For patients with HNC, radiotherapy (RT) is an important therapeutic modality. Although technological advances have made it possible to administer high doses of radiation with greater precision and target tissue localization, some toxic radioinduced oral effects remain prevalent (Table 1) [2]. Such effects can cause oral complications during RT itself (i.e., acute complications) or a few months, even years, after RT (i.e., chronic complications) [1]. In prevent those complications, the prophylaxis and management of RT's potentially toxic effects require dental teams specialized in caring for patients with cancer, which can, in turn, help to improve the quality of cancer care.

Such pre-emptive action needs to begin in the pre-RT period. At that stage, consultation with the patient should be performed with the aim of diagnosing and treating existing oral diseases, as well as planning preventative measures for possible complications (e.g., mucositis) [1,3]. Indeed, patients who have not received such consultation have demonstrated a higher risk of complications [1]. Therefore, in the pre-RT period, two particular procedures should be performed. First, the adequacy of the oral environment (e.g., restorations and extractions of teeth with questionable prognosis) should be examined, and infectious foci as well as traumatic and retentive factors should be eliminated. Second, guidance on the importance of strict oral hygiene and oral care to be followed during RT should be provided.

During RT itself, the patient needs to be routinely examined by the dental team. In response to the appearance of any toxic oral effects, specific therapeutic measures have to be taken to relieve pain, maintain oral food intake, and prevent the temporary or even permanent interruption of RT. In the post-RT period, preventative and curative care for later effects needs to be provided, along with rehabilitative care. Thereafter, because the risk of complications persists throughout life [1], patient follow-up needs to become routine.

The current COVID-19 pandemic, caused by SARS-CoV-2, has greatly impacted the performance of transdisciplinary teams in cancer treatment centers. Although the treatment of most patients with HNC remains a top priority amid the pandemic, as evidenced in a joint recommendation by the American Society for Radiation Oncology (ASTRO) and the European Society for Radiotherapy and Oncology (ESTRO) [5], the performance of dental oncologists has Elsevier Masson France



EM consulte www.em-consulte.com/en

been affected [6,7]. In particular, the high risk of viral infection faced by dental teams and patients, chiefly via fluids and aerosols for the oral cavity used in certain dental treatments [6,8], has prompted dental services to postpone or discontinue appointments [9]. Nevertheless, the adequacy of oral care that accommodates infection control measures currently recommended by competent entities [10] can allow dental care for patients with cancer to be maintained. For such care to continue, however, dental teams need be vigilant and provide safe environments for themselves and their patients [8,10].

To that purpose, personalized treatment plans for patients and partnerships with radiation oncologists are essential [9]. Prescreening over the phone can reveal symptoms possibly associated with COVID-19 and may justify postponing in-person consultation. If such consultation is deemed safe, then general safety measures need to include assessing the patient's body temperature, practicing frequent hand hygiene, disinfecting equipment and clinical surfaces, and using personal protective equipment consisting of masks (i.e., N95 or FFP2), disposable medical aprons, gloves, glasses, and face shields [8,10]. Prior to procedures, chlorhexidine mouthwashes can help to reduce the viral load of the SARS-CoV-2 in the saliva [4]. In oral care before, during, and after RT, droplet- and aerosol-generating procedures should be avoided, and extraoral imaging exams (e.g., panoramic radiography and cone beam computed tomography) should be used instead of intraoral radiographs [8]. In the pre-RT period, tooth extractions should be performed atraumatically and using resorbable sutures

Table	1
-------	---

Radioinduced oral complications [1-3].

	Radioinduced oral complications	Prevalence
Acute	Mucositis Fungal infections (most commonly oral candidiasis)	>90% 37.4% (during RT)
	Xerostomia (dry mouth feeling)	Conventional RT Pre-RT: 10% During RT: 81% IMRT Pre-RT: 12% During RT: 100%
	Dysgeusia	RT: 66.5%
Chronic	Trismus	Conventional RT: 25.4% IMRT: 5%
	Xerostomia	Conventional RT >2 years post-RT: 91% IMRT >2 years post-RT: 68%
	Osteoradionecrosis (more cases affect the mandible than the maxilla) Dental caries	Conventional RT: 7.4% IMRT: 5.2% Brachytherapy: 5.3% Post-RT: 24%

Note: RT = radiotherapy; IMRT = intensity-modulated radiotherapy.

[9]. Last, the use of handpieces, rotating instruments, and triple syringes should be reduced; atraumatic restorative procedures or the chemical–mechanical removal of carious lesions are promising alternatives [8,9].

During RT, in response to the appearance of unwanted effects, antibiotic, anti-inflammatory, analgesic, and topical medications (e.g., artificial saliva, mouthwash with saline, and bicarbonated water) should be prescribed [3,9]. At the same time, mucositis may appear in association with oral pain and odynophagia. Due to the intensity of symptoms, some cases may require RT to be suspended and/or the use of enteral and parenteral nutrition. Among possible therapeutic measures for mucositis, photobiomodulation therapy (i.e., laser therapy) stands out, given its antalgic, reparative, and anti-inflammatory effects [3], with no production of aerosols. Considering the need to reduce patients' visits to clinics [6], the use of remote patient support via virtual visits can facilitate continued contact with and immediate clinical attention when needed [7]. In view of the need to continually update guidelines for the prevention of COVID-19, updated information can be obtained from national and international bodies and organizations [10], including the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC).

Altogether, we believe that maintaining oral care for patients with HNC in RT is possible, as long as biosafety guidelines for preventing COVID-19 are followed and respected [10]. The role of the dental oncologist aims, above all, to contribute to the quality of life of cancer patients. As in our service at the Radialis Santa Casa Radiotherapy Clinic (Montes Claros, Brazil), those measures can positively impact the quality of patient care in RT centers around the world.

Declarations of interest

None declared.

Acknowledgments

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001. The authors are also grateful to the Conselho Nacional de Desenvolvimento Científico e Tecnológico – Brasil (CNPq) and the Fundação de Amparo à Pesquisa do Estado de Minas Gerais – Brasil (FAPEMIG). BAR has a CAPES fellowship. MCRH is a research fellow of FAPEMIG (CDS-PPM-00653-16) and is supported by a grant from CNPq (437861/2018-0).

References

- [1] PDQ[®] Supportive and Palliative Care Editorial Board. PDQ Oral Complications of Chemotherapy and Head/Neck Radiation. Bethesda, MD: National Cancer Institute. Updated 16/12/2016. Available from: https://www.cancer.gov/ about-cancer/treatment/side-effects/mouth-throat/ oral-complications-hp-pdq [accessed 05.19.20]. [PMID: 26389320].
- [2] Oral Care Study Group. Evidence-based management strategies for oral complication from cancer treatment. MASCC/ISOO; 2011'; 2014, https://www. mascc.org/assets/documents/Oral_Care-Summary-Oral_Complications_ Systematic_Reviews.pdf [accessed 14.07.20].
- [3] Moslemi D, Nokhandani AM, Otaghsaraei MT, Moghadamnia Y, Kazemi S, Moghadamnia AA. Management of chemo/radiation-induced oral mucositis in patients with head and neck cancer: a review of the current literature. Radiother Oncol 2016;120(1):13–20. <u>http://dx.doi.org/10.1016/j.radonc.2016.04.001</u>.
- [4] Yoon JG, Yoon J, Song JY, Yoon SY, Lim CS, Seong H, et al. Clinical significance of a high SARS-CoV-2 viral load in the saliva. J Korean Med Sci 2020;35(20):e195. <u>http://dx.doi.org/10.3346/jkms.2020.35.e195.</u>
- [5] Thomson DJ, Palma D, Guckenberger M, Balermpas P, Beitler JJ, Blanchard P, et al. Practice recommendations for risk-adapted head and neck cancer radiotherapy during the COVID-19 pandemic: an ASTRO-ESTRO consensus statement. Int J Radiat Oncol Biol Phys 2020. <u>http://dx.doi.org/10.1016/j.ijrobp.2020.04.016</u>.

- [6] Yuen E, Fote G, Horwich P, Nguyen SA, Patel R, Davies J, et al. Head and neck cancer care in the COVID-19 pandemic: a brief update. Oral Oncol 2020;105:104738. <u>http://dx.doi.org/10.1016/j.oraloncology.2020.104738</u>.
- [7] Alves FA, Saunders D, Sandhu S, Xu Y, Mendonça NF, Treister NS. Implication of COVID-19 in oral oncology practices in Brazil, Canada, and the United States. Oral Dis 2020. <u>http://dx.doi.org/10.1111/odi.13493</u>.
- [8] Fini MB. What dentists need to know about COVID-19. Oral Oncol 2020;105:104741. <u>http://dx.doi.org/10.1016/j.oraloncology.2020.104741</u>.
- [9] Kochhar AS, Bhasin R, Kochhar GK, Dadlani H. Provision of continuous dental care for oral oncology patients during & after COVID-19 pandemic. Oral Oncol 2020;106:104785. http://dx.doi.org/10.1016/j.oraloncology.2020.104785.
- [10] The French Society of Stomatology. Maxillo-Facial Surgery and Oral Surgery (SFSCMFCO). Practitioners specialized in oral health and coronavirus disease 2019: Professional guidelines from the French society of stomatology, maxillofacial surgery and oral surgery, to form a common front against the infectious risk. J Stomatol Oral Maxillofac Surg 2020;121(2):155–8. <u>http:// dx.doi.org/10.1016/j.jormas.2020.03.011</u>.

B.A. Rocha^{a,b,*}, P.A. Mendes^a, L.M.C. Lima^b, M.C. Lima^b, P.E.A. Souza^a, S.M.C. Grossmann^a, G.R. Souto^a, M.C.R. Horta^a ^aGraduate Program in Dentistry, School of Dentistry, Pontifícia Universidade Católica de Minas Gerais (PUC Minas), Belo Horizonte, Minas Gerais, Brazil

^bRadiotherapy Service, Santa Casa Hospital and Radialis Clinic, Montes Claros, Minas Gerais, Brazil

*Corresponding author at: Pontifícia Universidade Católica de Minas Gerais, Programa de Pós-graduação em Odontologia, Av. Dom José Gaspar, 500, Prédio 46 – Sala 101 – Coração Eucarístico, Belo Horizonte, MG. CEP: 30535-901, Brazil *E-mail address:* brenoamaralrocha@gmail.com (B.A. Rocha)

> Received 16 July 2020 Accepted 23 July 2020 Available online 7 August 2020

https://doi.org/10.1016/j.jormas.2020.05.023 2468-7855/© 2020 Elsevier Masson SAS. All rights reserved.

The omission of level IIB in early oral cancers: A word of caution

1. The omission of level IIB in early oral cancers: A word of caution

ARTICLE INFO

Keywords: Neck dissection Node Metastasis Head and neck cancer

The pattern of lymph nodal involvement in Head and Neck cancers is quite predictable. The extent of neck dissection over the years has evolved from a comprehensive one to a super-selective one. Multiple studies have shown the rarity of involvement of level IIB. The omission of level IIB during a standard neck dissection has been much debated in the literature. Studies have shown that nodal positivity at level IIA is an independent predictive factor for metastases to level IIB. Current histopathological techniques, in the