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Editorial

Provision of continuous dental care for oral oncology patients during & after COVID-19 pandemic

With the dawn of 2020, an abstruse virus, SARS-CoV-2 challenged the health profession, and created havoc all over the world. According to recent published data, due to the unforeseen conditions of the pandemic, COVID-19 patients have been prioritized over other patients, unfortunately including cancer patients [1]. Oral cancer therapy at its various stages is intertwined with dental care which aims to improve and maintain oral hygiene in order to reduce the oral complications and enhance the patient’s quality of life [2]. Dental care for these patients deals with eradication of foci of oral infection and prevention of potentially life threatening systemic infections of dental origin. A dentist’s role also involves prevention and alleviation of pain in the oral cavity, advising and aiding in maintaining adequate nutrition and providing reconstruction or rehabilitation after surgical procedures [3].

Prior to oncotherapy, the dental team must assess the risk of oral disease, plan prosthetic treatments needed such as implants or obturators, extract teeth with questionable prognosis that may act as a focus of infection or are in areas prone to osteoradionecrosis, apart from counselling and motivating the patient for oral hygiene [4]. During oncotherapy, elective dental procedures should be avoided. Management is limited to treatment of acute dental problems and mollification of symptoms such as management of oral mucositis, xerostomia, trismus and opportunistic infections [5]. After cancer treatment, the dentist aims to help the patient manage the adverse effects, prevent or reduce the incidence of osteoradionecrosis secondary to radiation of jawbones, and ensure maintenance or enhancement of oral status [6]. Hence, a dentist plays multiple roles in palliative as well as therapeutic care, while also motivating the patient for improved oral hygiene.

However, due to the unprecedented circumstances, dental treatments have been suspended in various countries owing to the implication of saliva and aerosols in the spread of COVID-19 [7,8]. This has led to disruption of dental care provision to all patients, including those receiving oncotherapy, for whom it is indispensable.

Although face-to-face consultations are reduced during the pandemic, tele-dentistry can act as a means to avoid interruption in care. Dentists can provide support to patients undergoing radio and/or chemotheraphy via telephone and where possible video calls [9]. Dentists must motivate and re-emphasize oral hygiene measures. (Table 1) Patients who are going to undergo oncotherapy should be informed about what to anticipate during oncotherapy treatment (such as mucositis, xerostomia and possible dysgeusia), and actions that can be taken to attenuate these effects [10]. Patients should be counselled about the need to improve teeth mineralization before oral hygiene maneuvers become difficult to maintain owing to discomfort and the need to thwart the risk of caries that arises due to dry mouth. The importance of long-term follow-up also needs to be italicized, especially with respect to caries and osteoradionecrosis [5]. In case of any symptoms, dental practitioners can request photographs or radiographs, if needed to help in diagnosis and advise home care measures, where feasible [9]. Constant check-ups, counselling and support via tele-dentistry consultations can be provided, to maintain and improve overall well being of the patients and consequently, quality of life.

Moreover, in case the patient requires urgent treatment, the dentist can provide the same with a contingency plan (Table 2), while following all the necessary infection prevention and control procedures.

Table 1
Oral Hygiene Instructions for oral cancer patients.

| MODE | EXAMPLES | CONSIDERATIONS/ADVICE |
|------|----------|-----------------------|
| **FLUORIDE TOOTHPASTE** | Duraphat® 5000 toothpaste (for patients over 16 years), Duraphat® 2800 toothpaste (for patients over 10 years) BioXtra® Toothpaste, Bistene® Toothpaste | Prescription toothpaste Pea-sized amount for brushing |
| **TOPICAL FLUORIDE** | The use of SLS free toothpastes may reduce the incidence of oral ulcers. Fluoride gel using custom applicator trays or by brushing | Application for 5 min, after the usual tooth brushing. To ensure the teeth are well coated with fluoride, the excess gel/toothpaste needs to be spat out and the mouth not rinsed. Soft headed toothbrush, with small head and soft filaments |
| **TOOTHBRUSH** | Curaprox® toothbrush Electric toothbrush | Mouth Rinse should be advised at a different time to brushing as rinsing straight after brushing minimizes the benefits of the toothpaste. |
| **MOUTH RINSE** | Fluoride containing mouth rinse. (0.05%) Non-alcohol Chlorhexidine rinse 0.12% | These can be used with warm water. They are ideally to be used before tooth brushing to not reduce the beneficial effects of the fluoride toothpaste. |
| **INTERDENTAL CLEANING AIDS** | TePe® interdental brushes, Wisdom® Clean Between brushes and OralB® Glide Floss picks. A Waterpik® Ultra Water Flosser or Philips® Sonicare Airfloss or Airfloss Pro may be an easier option to consider. | |

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## Table 2
Advised modifications & suggested dental treatments for oral oncology patients during and after COVID-19 pandemic.

| STAGE OF ORAL ONCOTHERAPY          | POSSIBLE SYMPTOMS/PROBLEMS/CONSIDERATIONS                                           | TREATMENT CONSIDERATIONS/ADVICE*,**,*** |
|-----------------------------------|--------------------------------------------------------------------------------------|---------------------------------------|
| **BEFORE TREATMENT**              | Mild periodontal disease                                                             | – Hand scaling. Avoid ultrasonic scalers/cavitron                                    |
|                                   | Caries (Restorable)                                                                  | – Chemo-mechanical caries removal, SDF application, ART, GIC restorations. Avoid AGP |
|                                   | Non-restorable teeth, moderate to severe periodontal disease, with missing antagonist, compromised oral hygiene, partial impaction, teeth with extensive periapical lesion | – Atraumatic extraction, avoid AGP                                                   |
|                                   | Prosthodontic/prosthetic problem                                                     | – Use resorbable sutures (to reduce patient’s visits)                               |
| **DURING TREATMENT**              | Mucositis & Ulceration                                                               | – Acrylic dentures insertion and adjustment, Implants, Obturator (ensure smooth surface) |
|                                   | Xerostomia                                                                           | – Rinse: 2 hourly with salt/baking soda/sodium bicarbonate/hydrogen peroxide in water |
|                                   | Trismus/Fibrosis                                                                     | – Barrier forming mouthwash: Gelclair®, MugGard®                                     |
|                                   | Taste Alteration/Dysgeusia                                                           | – Topical Coating Agents: Sucralfate, magnesium hydroxide, and hydroxypropyl cellulose |
|                                   | Burning/Swelling/Peeling of Tongue                                                   | – Topical Anesthetics: lidocaine, benzocaine, and capsaicin                          |
|                                   | Infections                                                                          | – Analgesics: NSAIDs                                                                  |
|                                   | Periodontal problem                                                                  | – Muscle relaxants eg. Chlorzoxazone, Tizanidine, Benzodiazipines-diazepam            |
|                                   | Prosthodontic Care                                                                   | – Physiotherapy and avoid parafunctional habits eg fingernail biting, tooth clenching etc. |
| **AFTER TREATMENT**               | Caries                                                                               | – If treatment in a dental clinic consider mouth prop & short appointments.           |
|                                   | Periodontal problem                                                                  | – Commonly not well tolerated food: high protein, hot foods but may be tolerated in morning |
|                                   | Removal of teeth if required, in sites at risk of osteoradionecrosis                 | – Commonly well-tolerated food are white meats, eggs, and cheese or cold foods        |
|                                   | Prosthodontic Care                                                                   | – Flavouring agents may help, Zinc supplements may help.                             |

* Patients should be advised good oral hygiene as per Table 1.

** Aerosol generating procedures (AGP) such as use of high speed headpieces & 3-way syringes to be avoided. High volume suction must be used with all procedures.

*** A customized approach needs to be taken by the dentist for each patient and in liaison with the oral oncologist. Table-2 adapted and drafted by referring [4,5,10].
The dentist and staff should wear appropriate Personal Protective Equipment (PPE) for the particular procedure to be performed, make use of alcohol based hand rubs and wash hands when visibly soiled, minimize aerosol generating procedures, use advised disinfectants such as 62–71% ethanol, 0.5% hydrogen peroxide, and 0.1% (1 g/L) sodium hypochlorite, and dispose off waste appropriately, all while being updated with the latest federal, national and international guidelines to safeguard the patients as well as the team [7,8].

It is imperative to provide continuous dental care to oral cancer patients, and dentists must ensure that there is no hindrance to the same, while reconsidering traditional treatments in light of the prodigious situation presented by the COVID-19 pandemic, in liaison with the oncologist.

Declaration of Competing Interest

No conflict of interest reported by any of the authors.

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