

is underdiagnosed and can lead to severe systemic manifestations [28].

- Of note, since dry mouth is a risk factor for oral candidiasis, attention should be given to possible co-diagnosis of thrush or erythematous atrophic oral candidiasis.
- Sialagogues like pilocarpine or cevimeline may be used to alleviate the symptoms. Additional information about the management of dry mouth is available in the MASCC/ISOO CPS: Management of salivary gland hypofunction and xerostomia in cancer patients [24].

Dysgeusia

- Data regarding the incidence of dysgeusia have been well documented. However, information about the duration of the taste disorder and the length of time that the sense of taste will recover after the suspension of immunotherapy remains unclear.
- Healthcare professionals should exclude the possibility of a concurrent drug or oral hygiene product that may cause or aggravate taste change.
- Fungal and bacterial infections may contribute to dysgeusia, and a short empirical course of topical antifungal or topical antimicrobial agents may be a strategy to exclude oral infection as the cause of taste disorder.
- A nutritional deficit should be ruled out as a cause by performing the following tests: hemogram/blood count, iron panel, folic acid, zinc, and vitamin B tests. Patients should be advised to consult with the primary care physician if a deficiency is detected to determine the necessity of additional gastrointestinal tests. Moreover, thyroid function should be examined to rule out undiagnosed or uncontrolled thyroid diseases.
- Based on previous literature on dysgeusia in the general population, zinc supplements may be a treatment option, even if the zinc level is within the normal range [29]. Some previous studies suggested that treatment with drugs indicated for chronic neuropathic pain may relieve dysgeusia [30]. However, the response to any of these treatments may be slow, and the treatment outcome is unpredictable. Photobiomodulation is an emerging approach to manage post-COVID taste disorder; however, data is limited in cancer patients.

Dysphagia

- Dysphagia is an irAE that may be associated with damage to the structures involved in the swallowing process,

including motility, sensitivity, and biomechanical events. Moreover, irAEs related to dysphagia may also be augmented by other irAEs such as OLP/OLR, stomatitis, and xerostomia.

- The treatment is aimed at managing pain symptoms if they exist, maintaining a comfortable oral food intake, and preventing choking or the development of aspiration pneumonia.
- Systemic analgesia may be required if the cause of dysphagia is severe pain. A nutritionist may guide the patient about the consistency, texture, moisture, and type of food to improve swallowing. In addition, speech therapy may improve the swallowing outcomes and prevent aspiration. In patients with severe cases of dysphagia, when extensive and rapid weight loss is observed, insertion of a feeding tube may be required.
- Patients should eat small bites and chew carefully to avoid choking. If the dysphagia is due to hyposalivation and lack of lubrication, as supported by the patient's report or objective tests, it should be managed as described above (see Xerostomia/Hyposalivation).

Other oral toxicities

- Anecdotal rare oral irAEs, including sialadenitis, medication-related osteonecrosis of the jaw, oral burning sensation, oral pain, and facial palsy have been reported. As more literature accumulates, specific recommendations may be added.
- Scleroderma was reported as an adverse effect of immunotherapy [31]. The early reports of scleroderma post-immunotherapy did not detail the oral involvement. However, it is well reported that scleroderma, unrelated to immunotherapy, manifests in the oral tissues with limited elasticity of the lips and tongue, small blood vessel malformations, limited mouth opening, increased frequency of gingival recession and gingivitis. The clinician should be aware of these oral signs to prevent the sequelae of oral fibrosis. Other conditions that have been associated with scleroderma include lichenoid reaction and dry mouth, which are addressed in a dedicated section above.

Dental care and basic oral care

- Basic oral care (BOC) encompasses the routine activities that should be part of the patient's care before, during, and after cancer treatment in order to maintain good oral health [32]. BOC is aimed at preventing infection locally and systemically, controlling oral pain, maintaining oral function, and preserving or improving the patient's quality of life.