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Letter to the editor

Covid-19 pandemic: A new contributing factor to diagnostic and treatment delay in oral cancer patients

Since the identification of the first cases of patients with a pneumonia of unknown origin last December 2019 in Wuhan (China), the rapid transmission of the SARS-CoV-2 virus has resulted in WHO declaring a global pandemic in two months. This ongoing pandemic has affected close to 75 million people and caused more than 1.6 million deaths all over the world (December 20th, 2020) [1] and has driven healthcare systems to the brink of collapse, imposing reorganisation and prioritization of services.

Despite wide variations in incidence, COVID-19 has been particularly damaging for high-risk individuals (older age, obesity, chronic respiratory or kidney disorders, liver or cardiovascular diseases, and diabetic or immunocompromised individuals). Cancer patients have also been included in this group -particularly those with head and neck carcinomas- as respiratory complications seem to seriously increase COVID-19-related morbidity and mortality [2].

A number of clinical guidelines have been developed to protect cancer patients from SARS-CoV-2 exposure, which are based on poor scientific evidence and include discordant recommendations regarding management of early-stage tumours. Delaying surgical treatments and favouring non-surgical approaches is a common proposal [3,4], with non-operative (radiotherapy) management when primary surgery must be unacceptably delayed, despite primary radiation and chemotherapy may be inferior to surgical approaches.

However, up to 39 scientific societies and professional bodies have agreed that delays longer than 8 weeks from diagnosis for surgical treatment of early-stage cancers, or longer than 4 weeks for the advanced ones, are unacceptable. Moreover, surgeons do not agree on the length of a tolerable delay (2–4 weeks, 2 weeks…) or even on whether such a thing actually exists.

In this line of avoiding delays, and based upon short-term survival studies, it has been suggested a careful preoperative screening combined with suitable postoperative care can ensure safe head and neck oncological surgery during the pandemic. Anyhow, the reorganisation of healthcare services in the pandemic situation has caused a deep discomfort among surgeons and patients.

Oral cancer pandemic scenario

Several short communications have disclosed fewer oral cancer diagnoses during COVID-19 pandemic, lack of control of potentially malignant oral disorders, and an increase in the proportion of advanced-stage cases compared to same period of the previous year, with longer diagnostic and therapeutic delays. In addition, the procedures for opportunistic screening of oral cancer have experienced changes and pauses, resulting in missed opportunities for early diagnoses. Thus, symptom-driven diagnosis is becoming more important and assuming the conceptual Aarhus' framework for early diagnosis in symptomatic oral cancer seems particularly recommendable [5].

Perspective of the model of pathways to treatment in the COVID era

Theoretical models identify targets to ease intervention assessment, and favour early diagnosis and better prognosis. Particularly, the model of pathways to treatment since the detection of a bodily change to the start of treatment includes appraisal, help-seeking, diagnostic, and preventive intervals and considers three contributing factors -patient, disease, and healthcare system- which influence these intervals [5].

Different patient features, such as demographic, social, and psychological or cultural factors, together with existing co-morbidities, modulate both the processes and time intervals to treatment. Traditionally, the delay attributed to the patient (patient delay) is due to a lack of knowledge, poor symptom interpretation, cultural beliefs, and self-treatment. However, during the current pandemic, cancer patients have experienced emotions such as fear, anger, anxiety, and sadness when facing COVID-related risks, and these negative emotional determinants are behaving as barriers to healthcare access [6]. Lockdowns seem to have contributed to diagnostic delay too, particularly in the case of senior individuals [6]. The characteristics of the tumour itself, including tumour aggressiveness and growth rate, also influence the diagnostic process, the prioritisation for treatment and, ultimately, the prognosis. Healthcare systems have also modified accessibility and health policies, with cancer patients frequently experiencing telephonic triage for in-person attention in combination with a reduction in the number of appointments available at primary care settings.

In this vein, the COVID-19 pandemic is behaving as new, core, contributing factor conditioning self-management and help-seeking attitudes of the patients, affecting referrals and appointments, and shaping treatment planning and scheduling for cancer patients.

Impact of COVID-19 pandemic on oral cancer patients

The real impact of the pandemic in terms of mortality is unknown. A few modelization studies have anticipated an excess of mortality linked to a COVID-19-associated disruption of the cancer pathway [7], but these projections are made from data collected before the pandemic (delay in surgical therapy, delay in starting radiotherapy and its length) assuming these factors increase mortality [8]. Diagnostic delay (long time intervals until diagnosis) in head and neck cancer increases mortality and favours diagnosis at advanced stages. The latter has been confirmed by a tree-fold increase in the number of advanced head and neck cancers observed during April-May 2020 compared to the same

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period of 2019 [9].

New waves of COVID-19 and their implications for clinicians and researchers

Current policies (lockdowns, mobility restrictions, social distancing, contact-tracing, and massive testing), along with self-protective, hygienic measures have failed to control SARS-CoV-2 transmission, as proven by new contagion peaks. However, this contemporary second COVID-19 wave seems to affect younger patients, with less comorbidities, resulting in a decreased case fatality rate [10]. This new epidemiological context, with vaccination of risk patients, should also be taken into account when using the current guidelines and assessing patients individually. Screening should be resumed, as well as campaigns warning about the need for professional advice when experiencing cancer-suspicious symptoms. Additional objectives should be to increase access to diagnostic services, improve communication with patients, and to dynamically optimise resources and procedures according to a changing epidemiological situation.

From a researcher point of view, there is a need for studies on time intervals within the conceptual framework of the "*Patient's Pathway to Oral Cancer Treatment*" [5]. Prospective studies, with validated procedures for measuring time-periods, and outcomes such as patient survival, tumour-stage, and quality of life are preferred [4]. It is paramount to consider the perspective of the patient while controlling for tumour influence (site, size, and growth rate), and monitoring the healthcare system.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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