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The influence of the first coronavirus wave on the two-week-wait head and neck cancer referrals to a London hospital

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1. Introduction

In December 2019, it was reported to the World Health Organisation (WHO) of a cluster of pneumonia cases of unknown aetiology in Wuhan City, Hubei Province of China. The cause of this outbreak was identified as the 2019 novel coronavirus which is also known as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1].

On the 25th of March 2020, the Chief Dental Officer England, Dr Sara Hurley, announced the cessation of routine, non-urgent primary, secondary and tertiary dental care in light of this global pandemic [2].

These rapid changes lead to the remote management of dental patients using the ‘AAA’ triaging guidelines (advice, analgesia and/or antimicrobials if appropriate) and the emergence of urgent dental care centres [3].

Over the last decade, head and neck cancer incidence rates have increased by 20% meaning general dental practitioners (GDPs) are increasingly more likely to encounter patients at various stages along the disease progression [4]. Thus, there is a significant role to play by GDPs in recognising what requires urgent, prompt, or non-urgent referrals [5].

In light of the changes declared by the government, GDP’s were unable to carry out early visual detection of head and neck cancer during face-to-face routine care. Head and neck cancer clinics in secondary/tertiary care, however, remained open, accepting urgent two week wait referrals as per National Institute of Health and Care Excellence (NICE) guidelines from GDP’s and general practitioners (GPs) who had remotely triaged patients [6].

This remote triaging service consequently relied on telemedicine with accurate history taking, clear photographs of lesions and cautious...
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decision making to be able to adequately distinguish between benign, potentially malignant and true malignant lesions of the head and neck region. The ultimate objective being to avoid the overburdening of the NHS staff which were limited due to redeployment in infectious intensive care wards, whilst also not compromising patient safety and misdiagnosing/delaying the diagnosis of malignant lesions. What has been evident in the literature is earlier diagnosis of head and neck cancer in an asymptomatic stage can hugely impact the prognosis of treatment and survival, this causes a particular concern during a lockdown where this asymptomatic phase may not seem a pressing concern to the lay patient [7,8].

King’s College Hospital accepts head and neck cancer referrals via the Pan London online referral system and covers the South-East London catchment area. Our aim was to determine how the COVID-19 pandemic impacted the two-week-wait head and neck cancer referrals during the first wave in order to help develop strategies to reduce the over burdening of the NHS two-week-wait clinics in any future circumstance.

2. Method

A retrospective review was conducted of all cases referred for suspected head and neck cancer to the Oral and Maxillofacial Surgery and Oral Medicine two-week-wait clinic at King’s College Hospital during the time period of the first COVID-19 wave, from the 1st of March 2020 to the 30th of September 2020. We compared this data with referrals made the previous year (2019) during the same time period. Referral details were obtained from SCR, our cancer-specific electronic patient record system.

Records were assessed for patient demographics, source of referral, time period between referral being made to the first appointment and the definitive diagnosis made.

The data includes all suspected head and neck cancers referred in by general dental practitioners, general medical practitioners and internal hospital referrals.

Monthly referrals were analysed so that the different stages of the first coronavirus wave could be more fully explored.

3. Results

A total of 233 suspected head and neck cancer referrals were made via the Pan London referral pathway during the first coronavirus wave in 2020, 1.7 times greater than the referrals made in 2019 (n = 132). A total of 3.4% (n = 8) of these patients were diagnosed with a subtype of head and neck cancer, compared with 132 referrals in 2019 where 9.8% (n = 13) were cancer diagnoses—a dramatic increase in overall referrals but decrease in head and neck cancer proportion.

The number of referrals per month were analysed and each month showed an increase in the number of referrals from 2019 to 2020, apart from April (the peak month of the first coronavirus lockdown), where referrals showed an increase in the number of referrals from 2019 to 2020, apart from April (the peak month of the first coronavirus lockdown), where referrals showed an increase in the number of referrals from 2019 to 2020 (Fig. 1). The largest rise in number of referrals occurred in the month of September; from 8 referrals being made in 2019 to 47 in September 2021, perhaps mirroring the backlog of patients being seen and referred in primary care in fear of a potential second lockdown.

The proportion of referred male to female patients decreased during the time period of the first COVID-19 wave, from 6.8% (n = 91) years in 2019 to 2.6% (n = 85) in 2020. Benign oral pathology accounted for 29.55% (n = 39) of referrals in 2019, compared to 4.5% (n = 8) in 2020, an increase in proportion. The proportion of head and neck cancer referrals where no clinical abnormality was detected was almost unchanged: 15.9% (n = 21) in 2019 compared with 12% (n = 28) in 2020- a drastic increase.

The proportion of referred male to female patients decreased during the first wave from 1.03:1 (n = 67 male, n = 65 female) in 2019 to 0.71 (n = 93 male, n = 139 female) in 2020. The age of suspected cancer patients referred decreased from a median (range) of 53 (17–91) years in 2019 to 47 (6–113) years in 2020.

The proportion of referrals where no clinical abnormality was detected was almost unchanged: 15.9% (n = 21) in 2019 compared with 14.2% (n = 33) during 2020. However, the proportion of patients that failed to attend decreased during the first coronavirus wave, from 6.8% (n = 9) in 2019 to 2.6% (n = 6) in 2020.

4. Discussion

We chose the same time period in the previous year (2019) for direct comparison with the first coronavirus wave in 2020. At this point all
primary care services had been asked to close and rely on remote triaging. As expected, during the peak of the first national lockdown in April 2020, there was a distinct drop in referrals via the two-week-wait pathway, which is likely to reflect overall fewer patients knowing how to access primary care services during this unsettled time.

From June 2020 onwards, a vast increase in the number of referrals were made when compared to 2019, perhaps as a result of the backlog of patients seen in primary care once services reopened during this month. This increased the pressure on the services provided by the two-week-wait clinic at King’s College Hospital.

A greater proportion of younger patients were being seen in our two-week-wait clinic in 2020 in comparison to 2019. This is perhaps due to the elderly population being recognised as a more vulnerable category to sustaining severe COVID-19 infection, possibly presenting with comorbidities and so may be less willing to be referred to the hospital for a review. Given the significantly high incidence of head and neck cancer in the above age group, this is particularly concerning [9].

The proportion of head and neck cancer diagnosis decreased significantly, quite the opposite to what we would expect, since this has historically shown a yearly rise in trend. This could reflect the barriers experienced by high-risk patients in accessing primary care services during the pandemic, combined with the inability of GDPs to carry out the usual oral cancer detection screening as they continued to work at a reduced “emergencies only” capacity. Patient factors may also play a role in this decreased diagnosis. Perhaps accurate examinations could not be made by clinicians remotely, due to possible poor-quality images of intra-oral lesions sent via online portals. We suspect that many patients may have decided to delay dental appointments due to the painless nature and lack of awareness around oral cancer.

Dental infections contributed to the greatest proportion of increase in referrals when comparing 2019 with 2020. This is surprising, since GDP’s remained open for remote triaging during the first coronavirus wave and a very media heavy “AAA” protocol was publicised on the news and social media to educate clinicians and patients in managing oral infections. We hypothesised that this reflects the exacerbated nature of the anxiety felt during the coronavirus wave and the eagerness of patients to be seen face to face by a clinician for reassurance.

Referrals of traumatic lesions increased during the first coronavirus wave in 2020, when compared to 2019. Although these lesions can be diagnosed with sufficient history taking, alongside an accurate photographic of the area, perhaps clinicians were sending a “just in case” urgent referral-resulting in the overburdening of the two-week-wait service.

Surprisingly, the number of “failed to attend” patients reduced in the 2020 coronavirus wave period - reiterating the preference of patients to be seen face to face by a clinician over telephone or video consultations; a new development in 2020. Or rather, this could reflect the increased availability of patients during the lockdown period.

Positively, the proportion of patients not seen within the required 14-day period remained fairly unchanged among both years. What was evident from the data, however, is that more patients chose to reschedule/cancel their appointment in 2020, possibly due to the fear of coming into hospital or perhaps due to resolved lesions/infections which no longer required clinical assessment.

5. Conclusion

From this study we can see the great impact of the first coronavirus wave on the referrals to the two-week-wait head and neck cancer clinics, both in number and type of diagnosis. This gives us valuable insight for service implementation and staff reallocation in the event of future further periods of waves to prevent the overburdening of services. In a primary care setting, there is also opportunity to help reduce the burden of this higher demand of referrals. Perhaps by developing accurate and efficient protocols for the provision of urgent, acute and routine care. Simple advice could be given to patients with information on how to take meaningful images or videos with their phones which could be of diagnostic value since telemedicine may start playing a greater role in our healthcare system.

Moving forward it would be very useful to analyse how the second coronavirus wave in the winter period of 2020–2021 further impacted the referrals, as general dental practices remained open for face-to-face appointments during this time. It would also be extremely valuable to further analyse the stage of these diagnosed cancer referrals, to assess whether the coronavirus wave introduced delayed presentations and influenced the severity of these head and neck cancerous lesions.

Ethics statement/confirmation of patient permission

This project does not require ethics approval. There are no identifiable patient details.

Author contribution

Nermin Hayek: Design of the study, Acquisition of data, Analysis and interpretation of data collected, Drafting of article and critical revision, Final approval and guarantor of manuscript.

Karim Hussain: Conception and design of study, Critical revision, Final approval and guarantor of manuscript.

Manraj Rai: Analysis and interpretation of data collected, Drafting of article, Final approval of manuscript.

Rohit Patel: Analysis and interpretation of data collected, Drafting of article, Final approval of manuscript.

Declaration of competing interest

We have no conflicts of interest.

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