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Fear Factor: Anxiety - a Cause of Delayed Presentation of Oral Cancer

Abstract: If oral cancer is diagnosed at an advanced stage, 5-year survival prognosis can be particularly poor. The existing literature indicates that patient anxiety is a contributing factor to patient delay in oral cancer diagnosis.
CPD/Clinical Relevance: This article explores the causes of delay in oral cancer diagnosis and encourages practitioners to play an active role in the early diagnosis of oral cancer. Practitioners should appreciate the need to take a holistic approach to patient management and understand that treatment of patients must be tailored to account for their general or specific anxiety issues.
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Despite efforts to reduce predisposing risk factors, incidence rates for head and neck cancer in the UK have increased by 30% since the early 1990s and are projected to rise by a further 33% over the next 20 years.[1] It has been suggested that there is poorer survival from cancer in the United Kingdom than other European countries; this can be attributed to more advanced cancer progression at initial presentation.[2] Unfortunately, oral cancer is often diagnosed late, which results in higher mortality rates. If oral cancer is identified at an advanced stage, when tumour size is large and there is lymph node involvement

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or metastases, 5-year survival rate can be as low as 20%.[3] In contrast, early detection of oral cancer may limit the extent of treatment required and improve survival rates. The 5-year survival rate has been found to be higher than 90% if a diagnosis is made in the initial stages of the disease.[4]

It is therefore important to ascertain the reasons for the delay in cancer presentation and understand the impact that this has on the overall diagnostic process. However, the cause of delayed presentation of oral cancer is multifactorial and it is not always possible to identify the cause clearly.[5] Primarily, it is the duty of general dental practitioners (GDPs) to carry out soft-tissue examinations to screen for oral cancer and refer patients under the 2-week pathway for further assessment and management, if indicated.[6] However, dentists can only play their role once a patient is under their care. Patient factors, such as the patient's motivation to seek

help and lifestyle factors, may have a significant impact on the patient's decision to seek help from the dentist or other healthcare professional initially. This article will explore fear and anxiety as the cause of patients delaying their presentation of oral cancer.

Delayed presentation of oral cancer

Numerous studies have explored the reasons for delayed presentation of oral cancer. There are two main causes for delays in cancer presentation (Figure 1):
■ Patient delay; and
■ Provider delay.

Patient delay
This is the delay in the time from which patients first notice their symptoms to their first consultation with a medical professional. Prolonged patient delay has been associated with cognitive and psychosocial factors, such as lack of
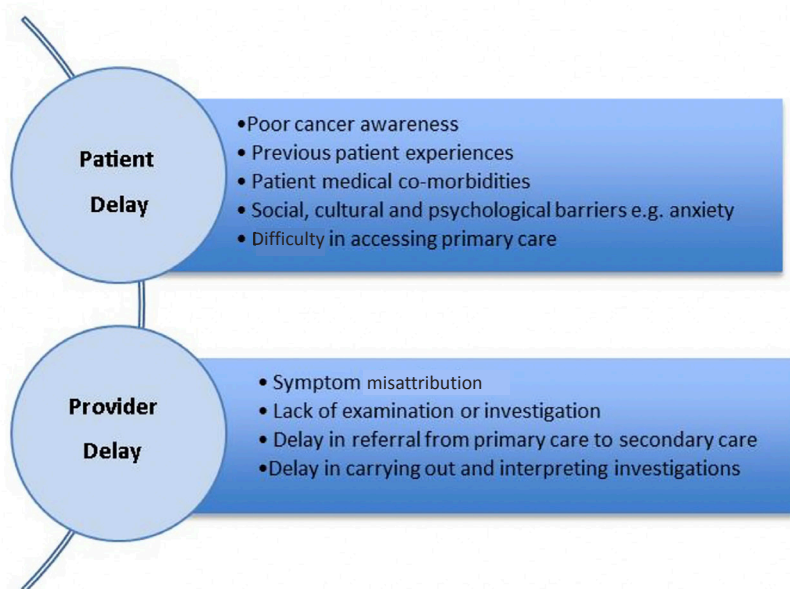
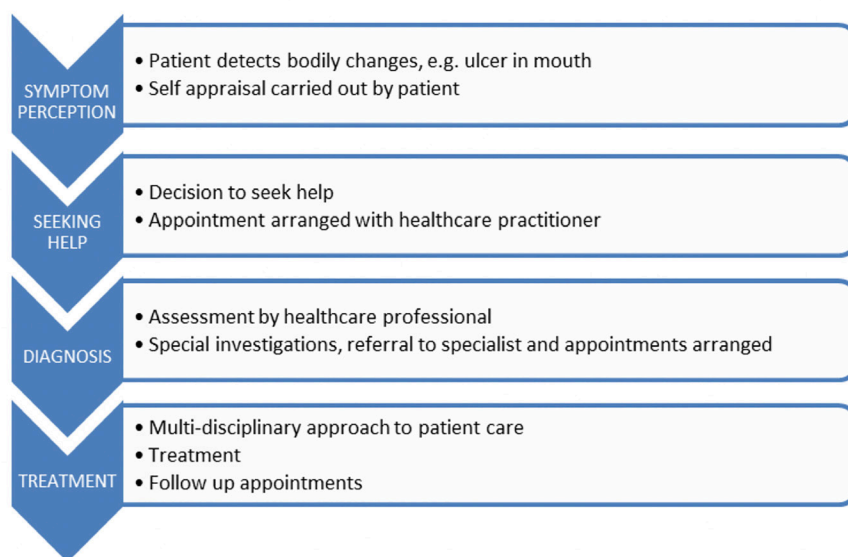**Figure 1.** Causes of patient and provider delay in cancer diagnosis.

Figure 2. Patient pathway to treatment showing ways in which patient delay can occur. Adapted from 'The Andersen Model of Total Patient Delay: a systematic review of its application in cancer diagnosis.' 2012.[10]

symptom recognition and anxiety.[7]

Provider delay

This is the delay in time from the patient's first consultation with a practitioner to when a treating specialist sees the patient and a diagnosis is made. Initial treatment delays can occur when there is a lack of effective screening and definitive diagnosis

by medical professionals. Dentists, in particular, are responsible for screening for oral cancer during routine examinations. They also play a role in primary prevention, which includes smoking cessation and alcohol advice.[8,9]

Symptom perception

The concept of 'symptom perception' is

important in understanding patient delay in the presentation of oral cancer. Biomedical models of symptom perception suggest that the presence of illness will cause bodily changes and symptoms that will be perceived as indicators of illness by the patient.[3] However, this model has been challenged as not acknowledging that it is actually the patient's 'awareness' of the signs and symptoms that is key to symptom recognition. Some patients fail to recognize these signs and symptoms of illness, despite disease progression and increasing bodily changes. Our environment, emotions and thoughts can all influence the process of symptom recognition.

There are number of choices that a patient can make in response to symptom recognition. These are:
- Ignore symptoms and avoid accessing healthcare;
- Attempt self-medication and avoid accessing healthcare;
- Consult friends and family for advice rather than accessing healthcare;
- Access healthcare possibly in conjunction with self-medication or consulting non-medical professionals.

Figure 2 provides a model of the patient pathway of symptom perception, seeking help, diagnoses and receiving treatment. There may be patient delay at any of these stages and there are a number of factors that may be responsible for this including:
- Patient demographics;
- Co-morbidities;
- Psychological;
- Social;
- Cultural factors; as well as
- Previous patient experience.

Anxiety

Kagan and Havemann described anxiety as a vague, unpleasant feeling accompanied by a premonition that something undesirable is about to happen.[7] Physiological elements of anxiety consist of changes in the body, such as increased heart rate, sweating, nausea, muscle tension, palpitations and breathlessness. Behavioural elements of anxiety may include avoidance of the anxiety-provoking

Author	Location	Study	Method	Anxiety area	Evidence
Hollows et al[13]	UK	Retrospective study	100 patient's information collected at the time of referral and treatment was examined retrospectively	Fear of dentist can increase delay in diagnosis	Weak
Onizawa[21]	Japan	Literature review	13 papers reviewed investigatiing diagnostic delay of oral cancer	Fear of cancer/surgery contributing factor to patient delay	Moderate
Scott et al[22]	UK	Systematic review	8 studies analysed exploring factors associated with patient delay in oral cancer	X	Strong
Noonan[23]	Republic of Ireland	Literature review	15 articles exploring reasons for delay seeking treatment for oral cancer	X	Moderate
Panzarella et al[24]	Italy	Retrospective study	156 patients with OSCC were interviewed to explore cognitive and psychological factors relating to delayed presentation	X	Weak
Stefanuto et al[17]	Canada	Literature review	18 studies analysing reasons for delay in treating oral cancer	Discusses fear of cancer diagnosis delaying treatment	Moderate

Table 1. A review of 19 publications from a Medline and PubMed database search on anxiety and delay in the diagnosis of oral cancer. Relevant data that was available from the publications are listed in the table.

situation or escape from the situation.[3] Anxiety can be general or specifically related to a particular event or object. This is the case with dental anxiety, which is specific to aspects of Dentistry.[3]

Although uncomfortable, anxiety can be a useful response that alerts people to possible dangers and, in turn, triggers self-protective strategies. However, if anxiety becomes excessive, it can be disadvantageous. For example, Todd and Lader found that 45% of patients they surveyed rated fear of the dentist as the most significant barrier to accessing dental care.[3]

Acknowledging the potential implications of anxiety during and after cancer is paramount. Cancer as a 'threat' goes someway to explain why anxiety can impact the decision-making process for patients seeking help regarding their symptoms. The thought of being diagnosed with cancer is distressing; the treatment and post-operative side-effects of cancer can also be very unpleasant. Anxiety may cause patients to delay seeking help from medical professionals or cause patients to cancel appointments at short notice.

Literature search

What information is out there about anxiety and oral cancer in the literature?

Discussion

Diagnosis of oral cancer at an advanced stage is associated with poor 5-year survival rates and, unfortunately, is not uncommon. Reluctance to seek healthcare advice remains a cause of delay in obtaining specialist advice and treatment. Scott et al reported that 53% of the patients with oral cancer waited 31 days before seeking help after detecting their symptoms and Allison et al found that 30% of patients delayed seeking help for more than 3 months after they noticed symptoms of oral cancer.[11,12]

Dental anxiety is a specific form of anxiety and has been found to increase patient delay in oral cancer diagnosis.[13] This is because patients with dental anxiety
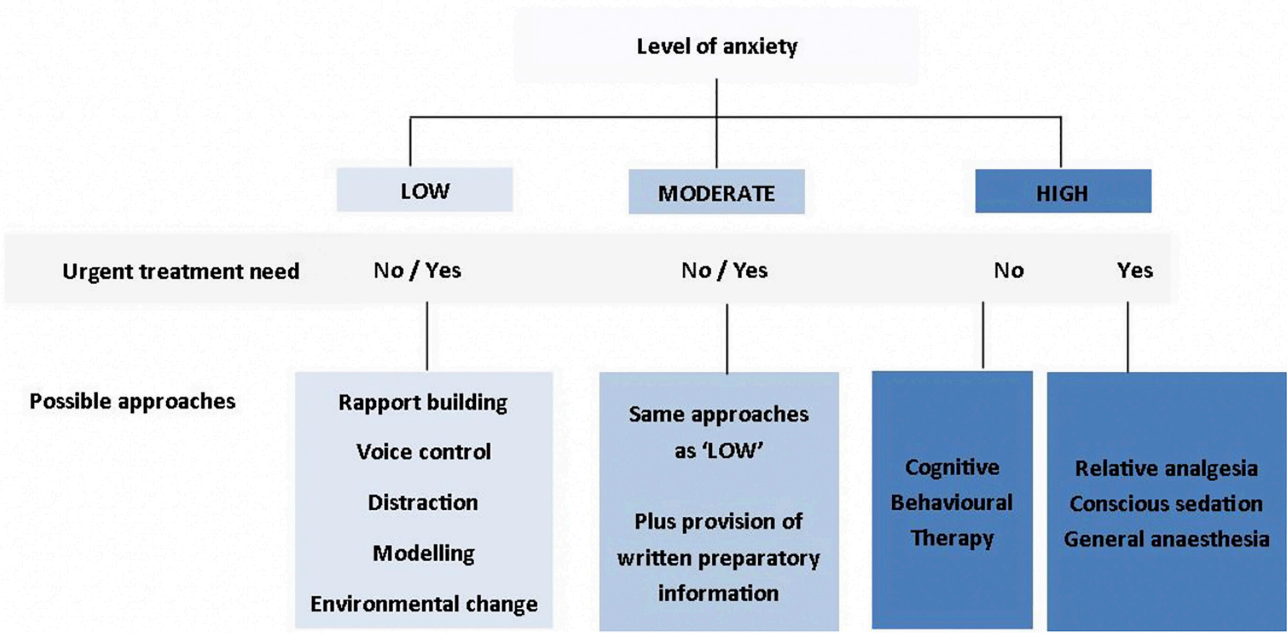
Figure 3. A flowchart showing current measures for managing patient treatment need based on the level of anxiety, adaptable to both primary and secondary care. Adapted from Newton *et al* 2012.[25]

are more likely to develop avoidance behaviour and possibly self-medicate, rather than seek advice or treatment from a dentist promptly after detecting their oral cancer symptoms. It is estimated that 12% of the UK population has extreme dental anxiety, which can result in irregular dental attendance.[14] Without regular dental care, the oral health of dentally anxious individuals can be significantly compromised.[15] It is of the utmost importance therefore that all individuals have regular dental check-ups that include a soft tissue exam and screening for oral cancer.

Similar to breast, cervix and prostate cancer, oral cancer can be detected early through screening by healthcare practitioners. The literature relating oral cancer and delays in diagnosis to anxiety is not sizeable. However, it can be concluded that there is an association between anxiety and delay in diagnosis of oral cancer (Table 1). A meta-analysis by Smith *et al* found anxiety and fear of cancer diagnosis to be strong contributing factors to delaying diagnosis of all types of cancer.[16]

Patient delay has been found to be the greatest contributor to the overall delay of treatment. Stefanuto *et al* found one of the main reasons for patient delay to be the administration of self-treatment, which, interestingly, in 50% of patients was provided with the advice of a pharmacist.[17] Another reason for this delay is symptom misattribution; Brouha *et al* found that patients tend to associate their oral cancer symptoms to dental issues or an infection.[18] Ultimately, those who do not relate their symptoms to cancer are more inclined to delay seeking healthcare advice than those who do.[19]

Management of anxiety in primary care

Dental anxiety can significantly impact the ability to provide treatment; there are many established ways in which it can be tackled. Behavioural management and distraction techniques are all common methods, which clinicians utilize to manage dental anxiety. Some of the management techniques can be implemented in primary care, however many, such as hypnotherapy and acupuncture, may require a referral to secondary care. The unwanted consequence of dental anxiety is non-attendance which, in the case of oral malignancy,

can have considerable implications. Oral health campaigns have been found to encourage dental attendance. It has also been discussed on several occasions in the UK whether an oral cancer screening programme should be implemented and carried out by healthcare professionals.[20] This programme may lead to a greater proportion of patients being diagnosed with oral malignancy at an earlier stage.

Management of anxiety in secondary care

The National Multidisciplinary Guidelines on the Psychological Management of Head and Neck Cancer Patients (2016) stipulates that there should be services available to identify and manage the complex psychological needs of patients with psychological difficulties, eg patients with severe anxiety. This recommendation is underpinned by the fundamental principle that a holistic approach must be taken to maintaining patient-centred care.

The use of assessments for psychological distress, such as the Hospital Anxiety and Depression Scale and the Distress Thermometer, are considered a means to identify those patients who may

suffer with severe anxiety or distress during the process of cancer treatment preparation, the treatment itself, initial stages of recovery and follow-up out-patient appointments.[21] The aim of these assessments is to identify patients who would not necessarily be identified as needing psychological support otherwise. Patients who are highlighted as needing significant psychological support to get through the cancer treatment and recovery process are referred into the care of a clinical psychologist (Figure 3).

Conclusion

Delay in the diagnosis of oral cancer has many causative factors and patient delay is usually the most significant. A shift from the current pattern of advanced presentation of oral cancer is required. To tackle delays in oral cancer diagnosis, GDPs must continue to educate patients on oral cancer signs and symptoms. In particular, those from lower socio-economic groups, as this group is known to have higher intakes of alcohol and tobacco, which are well known causes of oral cancer.

Strategies to promote oral cancer awareness within the general community should also be encouraged. Pharmacists may be able to sign-post customers who require further investigation, eg those who repeatedly purchase self-medicaments for mouth ulcers or a hoarse voice for over 3 weeks. Patients may visit the general medical practitioner with potentially cancerous oral lesions in an attempt to avoid seeing the dentist, if they acknowledge that they need some form of treatment intervention. Dental phobic patients, in particular, may be more inclined to do this. Therefore, general medical practitioners should receive training on the detection of oral lesions as part of official training. The challenge at present is to develop interventions within the wider community that target anxious patients and encourage them to access healthcare readily in order to prevent and detect medical problems such as oral cancer.

Compliance with Ethical Standards
Conflict of Interest: The authors declare that they have no conflict of interest.
Informed Consent: Informed consent was obtained from all individual participants included in the article.

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