Oral Cancer: Prevention and Detection in Primary Dental Healthcare

David I Conway, Lorna M D Macpherson, John Gibson and Vivian I Binnie

The incidence of oral cancer is rising in the UK. Mortality from the disease remains high and survival has not improved significantly in the last 30 years. The primary dental health team has an integral role in the delivery of oral health promotion and prevention advice and in the early detection of oral malignancy and potentially malignant lesions. Both prevention and early detection within the general dental practice setting have a potential impact on overall incidence, morbidity and mortality from oral cancer. This paper details the primary dental healthcare team’s roles in delivering smoking cessation and alcohol reduction counselling, in the early detection by oral examination, and in the process of prompt referral.

Introduction

Oral cancer remains an insidious and growing problem. The most recently available United Kingdom data show that there are approximately 3500 newly diagnosed cases of oral cancer per annum1-4 with about half of this number dying from the disease each year.1,3,5 The incidence and mortality rates associated with oral cancer have generally shown little improvement over the last three decades.6 The five-year survival rates for oral cancer remain poor, with little improvement having been observed in England and Wales over the last three decades,6 and survival from oral cancer in Scotland getting worse in the same period.3

Oral cancer is more prevalent in people from deprived backgrounds,6 and in the older population,7 with 98% of cases presenting in those over 40 years of age.7 However, there is recent evidence to suggest that there is a rise in younger age groups,8 thus it is important to recognise that oral cancer can occur in either gender and at almost any age.

Through regular patient contact, general dental practitioners are in the ideal position to examine properly the oral soft tissues thus, in theory, promoting the early detection of oral cancer and potentially malignant lesions.6 Furthermore, if oral cancer is suspected, the dental team plays a vital role in the early management of the patient with respect to patient counselling and prompt referral, thereby facilitating early diagnosis and definitive treatment. The primary care dental team is therefore in the pivotal position to speed the patient’s journey from the community to the hospital service.

The educational requirements of the whole primary healthcare team in relation to oral cancer-related practices have been investigated recently.9 In response to these needs a continuing educational resource material Oral Cancer Prevention and Detection10 was developed and distributed to primary healthcare professionals in Scotland.

Prevention

The aetiology of oral cancer is multifactorial. There is unequivocal evidence establishing tobacco usage and alcohol consumption as the major risk factors in the development of oral cancer.11 Moreover, a synergistic relationship between tobacco and alcohol is recognised, with a greatly increased risk if both habits are practised together.12

Encouraging patients to become aware of what they can do to prevent oral cancer is important for all health professionals. The general dental practice team has an important role to play through dissemination of oral health promotion advice. In general, the dental team should be seen to practise what it preaches: the dental practice should aim to become a health-promoting environment. Both staff and patients should benefit from measures to create a healthy environment. The practice should develop and adopt a no-smoking policy, both in work areas and in the waiting room. The most important health promotion activities in
preventing oral cancer are smoking cessation and sensible alcohol consumption. Patient information should be readily visible and available in practice waiting rooms and at reception.

Health Promotion Departments are an important resource, both in terms of trained personnel and health education materials. The primary care dental team would benefit from one member acting as liaison between the local Health Promotion Department and reporting back to the practice about new materials and literature.

Smoking cessation and alcohol reduction counselling

Prevention advice should begin with recording in the case notes the patient’s smoking/tobacco and alcohol habits as part of the routine history and examination of regular attenders, as well as new patients. Of the dentists who do ask, some find it difficult to take this further in those patients who are asymptomatic. Dentists are more at ease with broaching the topic of smoking cessation if there is evidence of tobacco-related lesions in the mouth.13

The 4As approach to giving smoking cessation advice: (Ask your patient, Advise your patient, Assist your patient, Arrange follow-up for your patient) is a well-documented approach which forms a useful guide for dentists and hygienists working chairside.14 It has recently been modified to include a fifth ‘A’ which incorporates assessment of the patient, as it is known that all patients are not psychologically ready to give up, and a modified approach known as the 5As can be used.15

For the ‘4/5 As’ model to be most effective and implement change, multidisciplinary working across the whole of primary healthcare services is required. Thus, guidelines for primary care members, including the dental team, have been issued in both Scotland and England.16,17 This should ensure clear and consistent advice across all team members when delivering smoking cessation advice.

Many quit-attempts in patients fail due to nicotine withdrawal and this can be addressed by the use of nicotine replacement therapy (NRT). Information on and encouragement to use NRT is seen as part of ‘Assist’ for patients who are trying to quit and who wish to use this therapy. Currently, dentists in the UK are not able to prescribe these products on the NHS, though in one smoking cessation trial, patients could opt to buy these at cost price in the dental practice setting.18

With regard to alcohol reduction in high-risk patients, dental team members can ask and advise to drink within accepted limits, although further counselling is seen to be the domain of the specialist organisations. It would therefore be useful for information on local referral mechanisms to be available for staff members for use with their high-risk patients.

Oral examination/detection

Regular check-ups by a dentist, which include examination of the oral mucosa, are important in the early detection of oral cancer or potentially malignant lesions. Additionally, contact with other primary care dental team members—including hygienists—provides not only an appropriate setting for preventive advice, but also a valuable screening opportunity.

It is recognised that oral cancer is often detectable and identifiable early in its development. Diagnosis and treatment at this stage is normally associated with an improved outcome.19 However, many patients with oral cancer present late and have a resulting poor prognosis.20 Additionally, the later the detection, the more extensive the treatment necessary leading to increased morbidity—including loss of function, aesthetics and mental health.

While early detection of oral cancer should improve prognosis, there are, however, some barriers to this occurring.9 Awareness of the disease amongst the public and some primary healthcare professionals is low, and those most at risk (the socioeconomically deprived and the elderly10) are least

Figure 1 Cervical lymphatic chain.

Figure 2 Clinical examination sheet: oral mucosa check-list chart.
likely to visit a dentist and are consequently denied the benefits of a frequent intra-oral examination. Moreover, such individuals are more likely to present with oral discomfort to other primary healthcare professionals eg general medical practitioners, nurses, or community pharmacists.

Therefore, it is important that all members of the primary healthcare team are aware of oral cancer, of the importance of encouraging regular dental attendance, and of their role in the identification and appropriate referral of individuals with oral mucosal complaints which last longer than three weeks.

Examination for Oral Cancer

The oral mucosa is easily inspected and, therefore, oral cancer should be detectable at a very early stage. However delay often occurs between the time of onset of signs or symptoms and diagnosis. Whilst this is usually due to the patient's delay in seeking a consultation, in some cases it results from a clinician's failure to detect, or suspect, the malignant nature of a lesion. Thus, it is important that clinicians are able to conduct a comprehensive screening examination for oral cancer.

A thorough and methodical inspection should include both extra-oral and intra-oral examinations.

Examination of the lymph node groups of the neck should be routinely performed, standing behind the patient: palpate the neck from the submental area under the chin, moving posteriorly to the submandibular and then the jugulodigastric regions and then down the deep cervical chain as shown in Figure 1. Lymphadenopathy will present as hard swellings or masses, usually asymmetric and tender.

A thorough and systematic approach is required to view the whole oral mucosa for changes, and this can be aided by the use of a chart, with tick-boxes (Figure 2), indicating the sites to be examined.

This can be beneficial to ensure a thorough examination and good record-keeping is carried out. Demonstration of accurate record-keeping is becoming an increasingly important aspect of clinical governance and medicolegal defence.

The ‘danger areas’ are particularly the floor of the mouth, posterior and lateral aspects of the tongue, and the retromolar areas. This can be inspected by reflecting the tongue with a dental mirror, and asking the patient to touch the palate with the tip of the tongue.

Figure 3: Erythroplakia affecting the palato-fauceal complex.

Figure 4: Speckled patch on the left buccal mucosa.

The dorsal surface of the tongue should be viewed by asking the patient to stick the tongue out and noting the normal anatomical landmarks of the papillae which to the inexperienced operator may give rise to ‘diagnostic’ concern. To examine the full extent of the lateral border of the tongue, the tip of the tongue should be held in gauze to enable it to be gently pulled, allowing full visualisation to both the left and right lateral borders in turn. Finally, the hard and soft palates and retromolar areas/portal of fauces areas should be viewed in their entirety, removing any dentures if present.

Clinical Presentation

Symptoms

Small carcinomas of the oral cavity may be painless or associated only with mild irritation. Such lesions may be discovered as an incidental finding during routine dental examinations. Most patients delay seeking professional advice for more than three months after becoming aware of an oral problem. When patients finally seek consultation, the most frequent complaint is a ‘sore’ or ‘irritation’ in the mouth. Squamous cell carcinoma of the tongue tends to present as a non-healing ulcer, or as an outgrowth of tissue. Due to movement of the tongue during speech and mastication, pain is a common presenting symptom, but there are a number of oral symptoms of which patients may complain (Table 1).

Alteration in normal anatomy or function clearly requires an explanation. Therefore, where there is objective evidence of sensory or motor disturbance, slurring of the speech, or difficulty in chewing, further investigation is warranted.

Signs

The most common presentations of a squamous cell carcinoma of the oral mucosa are an area of redness, combined white/red lesion or an indurated (hard) area of ulceration. When such a lesion has been present for a month or more, then
the lesion should be viewed with suspicion.

Since oral cancers spread through the lymphatic system, lymph nodes in the submandibular region and deep cervical chain may be palpable (Figure 1). Unfortunately, this means that the disease process has reached a more advanced stage. Cancers of the tongue and floor of the mouth show a higher tendency to regional metastasis than cancers of the lower lip. It should be noted that cancers may show ipsilateral, contralateral or bilateral lymphatic spread. Oral cancer can present in many forms. Common presentations are an area of redness (Figure 3), a speckled—combined white and red—lesion (Figure 4), a swelling (Figure 5), or as a solitary ulcer (Figure 6).

**Patient counselling**

Patients often have strong suspicions about the possibility of an abnormality in their mouth being malignant, cancer or 'nasty'. Primary care dentists have a most important role in dealing with a patient's concerns, taking into account their psychosocial, medical and family background.

Counselling should be a sympathetic discussion, its extent dictated by the patient who should be allowed to express his or her fears and concerns. The dentist should respond to direct questioning from the patient in a controlled manner, but no absolute responses can be given without the results of the histopathological investigation.

The dentist who has genuine concerns about a lesion being malignant or premalignant has a responsibility in preparing the patient for 'bad news' from the specialist team. However, it is important to leave the patient feeling informed and secure, without giving misinformation, for example:

**Dentist:** 'I have some concerns about what I can see in your mouth. However, I am not completely sure and would like you to see a specialist.'

**Patient:** 'Is it serious? Is it cancer?'

**Dentist:** 'I don’t think we can jump to any conclusions at this stage since many different conditions occur within the mouth. That's why seeing a specialist is important.'

**Referral guidelines/protocol**

The only way to obtain a definitive diagnosis of an oral lesion is from a histopathological report of a biopsy of the suspected lesion. This should be done in a specialist unit with a degree of urgency that must not exceed a month, as outlined in the NHS Plan.23 Members of the primary dental health team must ensure they are aware of the local referral arrangements for oral cancer. They should make telephone contact with the regional consultant in oral and maxillofacial surgery, plastic surgery, ENT surgery or oral medicine. Telephone discussion will allow the referring practitioner to identify whether or not a particular consultant deals with suspected oral cancer. This will save unnecessary waiting time.

It is best to establish these referral pathways before a patient with a suspicious oral lesion is seen in the dental practice. Local protocols and referral arrangements for patients with suspected oral cancer is an advisable subject for a local CPD/audit session, where invited dental practitioners and primary healthcare workers can meet with the relevant specialists in the secondary care sector.

In some areas Rapid Access Clinics may exist. Their effectiveness will only be established with appropriate education for the whole of the primary healthcare team and the public, to allow them to be used appropriately.

If a referral is to be made, telephone contact should be made followed-up with a formal letter of referral. The referral letter should be marked ‘URGENT’ and addressed personally to a named consultant, and must include the details shown in Figure 7.

The referring dentist should be aware of the likely scenario when the patient first attends the specialist unit. The patient may be advised to expect a biopsy (usually under local anaesthetic with or without sutures being placed) and that this is the only way to definitively diagnose the lesion. Clinical photographs are usually taken for the case notes as a matter of routine. Radiographical assessment of the
head and neck may be performed, and blood may also be taken for analysis.

It is important to realise that following referral the primary dental health team have a continuing role. If oral cancer is diagnosed, the patient's life is never going to be the same again. The dental practice should have an 'open door' policy and patients should be encouraged to return for further discussion and support as they feel they need. A formal follow-up appointment is a good way to show that they are not being abandoned into hospital care, without any support mechanism in place.

Conclusions

The primary dental healthcare practitioner and team, being in regular contact with patients and their families, are in the ideal position to give advice on the risk factors associated with oral cancer and to examine for oral cancer and potentially malignant lesions. Prevention in the form of smoking cessation and sensible drinking advice should be offered. Dentists should consider this in terms of a common risk factor approach: as smoking is relevant to oral cancer, but also to periodontal disease and general health. Examination of the oral mucosa should form part of all patients' routine check up.

Dentists have an important initial and continuing counselling role for patients with suspected oral cancer and for those diagnosed. To facilitate this, communication pathways should be established between primary and secondary care and referral protocols should be in place.

There is a need for improved awareness of the roles of the oral cancer specialist care team and of the general dental practitioner by each other, to establish a greater integrated approach in the overall management of patients with oral cancer making the patient journey smoother, more effective, and improving outcome.

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References

2. Wales. Welsh Cancer Intelligence and Surveillance Unit (data direct from registry and unpublished).