Spotting the signs and symptoms of lip cancer in patients

Dental nurses can play a vital role in detecting

serious conditions such as lip cancer in patients, says dental hygienist **Ali Lowe**,¹ who has launched a campaign called Fit-Lip.

Dental nurses working in a clinical setting play a vital role not only in the smooth running of the surgery but also helping to detect serious conditions such as lip cancer in patients.¹ Survival rates are good if caught early, and dental nurses' conversations with patients can prove invaluable and help to ensure that the patient and not just the team are thinking about just how *fit* their *lips* are.

Definition of lip cancer

At present, lip cancer is defined as a form of *mouth* cancer occurring at the junction between the oral cavity and the skin (the outer lip). However, the epidemiology of lip cancer supports the proposal that the lip should be regarded as a distinct cancer site, rather than being included with other forms of mouth cancer.²

Most lip cancers are squamous cell carcinomas, which means they begin in the thin, flat cells in the middle and outer layers of the skin called squamous cells. These cancers tend to spread quickly and need to be caught early.

With an annual rate of 0.2 per 10,000 in the United Kingdom (UK) it is far less common than other forms of mouth cancer (including the inner lip) but in many cases it is a preceding factor.³ However, any case is one case too many as it can be devastating not only for the patient but also their family and friends.

Clinical manifestations of lip cancer primarily involve the lips but can also occur on adjacent areas in the mouth and in the early stages are often asymptomatic.⁴ Indeed, many patients mistake it for a cold sore and often other people don't comment for fear of

causing offence, thus it can proliferate easily without early recognisable symptoms or pain (see Figs 1-2). If not caught early, treatment for lip cancer can have many functional and cosmetic consequences - resulting in difficulty with speech, chewing, and swallowing. Also, surgery may result in disfigurement of the lips and face.

Aetiology

Lip cancer is often described as multifactorial and poorly understood, as is the case with many malignant diseases.⁵ Nonetheless, we need to familiarise ourselves with common risk factors. They include:

- **Tobacco use:** risk factors for lip cancer include the traditional carcinogens for head and neck cancer such as betel nut, cigarette and pipe smoking. Cigarettes in particular contain various carcinogens which damage the lining of the lip and cause abnormal cells to proliferate.⁶ The more frequent and greater the consumption of these, the larger the risk is
- **Alcohol:** excessive alcohol is harmful, but a combination of alcohol and tobacco presents the highest risk
- **Medical history:** We need to pay attention to our patients' medical history as evidence suggests that both the Human Immunodeficiency Virus (HIV) and Human Papilloma virus (HPV) (especially types 16 and 18) infections may increase the risk of lip cancer. However, although HPV has been associated with lip cancer, its role in the pathogenesis of the disease is not as defined as with other areas in the mouth⁷
- Studies also demonstrate that patients who are being treated for immunosuppression have a higher risk of developing squamous cell carcinomas (such as lip cancer) mainly due to the medication which includes cyclosporine and corticosteroids. Indeed, lip cancer has been described as a common consequence of renal transplantation⁸
- **Lip trauma:** repeated trauma by self-inflicted injury (eg with a toothpick or pen) or habitual chewing can act as a potential trigger for carcinoma of the lip⁹
- **Oral Hygiene:** patients with poor oral hygiene seem to have increased risk of

Fig. 1 Example of lip cancer

Fig. 2 Example of lip cancer

'If not caught early, treatment for lip cancer can have many functional and cosmetic consequences - resulting in difficulty with speech, chewing, and swallowing.'

Author information

¹Fit-Lip is a campaign aimed at encouraging people to wear SPF lip balm in order to protect their lips, prevent lip cancer and generally 'keep their pout healthy'. The campaign was founded by Ali Lowe, a dental hygienist and student on Victoria Wilson's Smile Revolution course [designed to help dental professionals plan an oral health promotion venture]. Ali has a keen interest in facial aesthetics and is passionate about maintaining the wholesome appearance of the lips.

Ali has noted that people diligently apply sunscreen to their face but forget to do their lips the same justice by protecting them with an SPF lip balm, which is a concern as UV damage can lead to lip cancer. No matter what the occasion, there is an SPF lip balm out there to suit all eventualities. As Ali says: 'After all, do our patients really want lips to die for?'

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lip cancer, irrespective of any proven risk factors

- **Familial tendency.** It has been suggested that there is a familial tendency which is thought to be due to a genetic component, but there is no real evidence to support this.
- **Gender.** Traditionally lip cancer was seen mainly in male smokers, but incidence rates are now generally stable or falling amongst men throughout the world but rising in many female populations including those in the UK.

Perhaps the most well-known aetiological factor is **sunlight**. Indeed, prolonged and cumulative sun exposure is the most significant carcinogen involved in the development of melanoma and non-melanoma lip cancers. Approximately a third of lip cancers are associated with excessive sun exposure in patients, especially those with outdoor occupations and fair skin. This helps

explain why almost 90% of lip cancers occur on the exposed vermilion of the lower lip which is at higher risk for skin cancer because it is usually more prominent and has a higher level of sun exposure than the upper lip which is protected by the nose and angled slightly downwards.⁸

Therefore, it is no surprise that lip cancer has a definite geographic pattern relating to sun exposure that is notably different from mouth cancer and 30% of patients with lip cancer have outdoor occupations.⁹

You could be excused for thinking that we do not need to worry in the UK because the incidence of lip cancer is not so high, but that does not mean it is non-existent. The risk is going to increase, compounded by climate change, including stratospheric ozone depletion, global warming, and ambient air pollution. A change in behaviour has been noted following COVID with people taking up new hobbies such as running, walking, cycling, gardening and water sports, all leading to greater susceptibility to UV radiation-induced

carcinogenesis, hence the need to continue raising awareness.

So, to summarise when assessing patients, high-risk factors include:

- Tobacco use
- Alcohol use
- Combination of alcohol and tobacco consumption presents highest risk
- HPV types 16 and 18
- Chronic trauma (eg biting of lip)
- Perhaps most important of all: **Sunlight** exposure.

Screening

Dental nurses can play a key role in helping the clinician detect this deadly disease.

While updating or obtaining new medical and dental histories, or just by having casual conversations with patients while waiting for the clinician in the surgery, you can obtain valuable information by recognising signs and symptoms that may indicate lip cancer caused by carcinogens such as tobacco and alcohol or viruses such as HPV or HIV.

Discussing the medical history can be difficult for both the patient and the team. However, approaching it with a professional and friendly attitude will make patients feel a lot more comfortable. Dental nurses can do a great job of informing patients why it is important to do a mouth cancer screening at every check-up thus creating an environment the patient can feel comfortable in and trust.

The screening stage of the appointment often leaves patients holding their breath, but they don't need to! Creating a genuine connection by asking engaging and specific questions will allow your patients to literally 'open up' which is vital to a thorough check-up and can help save lives. Invite them into a conversation about their health, including their risks, instead of just running on autopilot. November is Mouth Cancer Action Month (<https://www.dentalhealth.org/mouthcancer>) and having some knowledge of the disease provides a great opportunity to engage our patients.

External screening

Dental nursing often involves sitting at a different angle to the clinician so if you notice an abnormality, gently enquire about it with the patient and discuss it with the clinician.

During the initial examination the patient's face should be checked for asymmetry, swellings, skin blemishes, moles, and pigmentation. The vermilion border of the lips and corners of the mouth need to be examined for changes in colour or texture and the lymph nodes of the neck palpated in order

to detect any enlargement/nodal metastases.¹⁰

The sensation of the lower lip and chin on each side of the midline of the mandible should also be assessed. This is because even in early stages lip cancers can gain access to the mental nerve, involve the mandible, and even spread into the mental foramen.¹¹

Signs and symptoms to look out for include:

1. An open sore that does not heal
2. Bleeding
3. Lumps or wart-like growths
4. Thickening
5. Discolouration
6. Swelling
7. Pain
8. White plaque/erosions
9. Tingling sensation or numbness
10. A red patch that becomes crusty and itchy
11. Pale skin area that looks like a scar.

currently use, alcohol or tobacco and advise them of the harmful effects, primarily the increased risk of lip cancer. We can joke about being nosy to help put them at ease. If they say, 'Yes, but it was a long time ago' try to pin them down as everyone's perception of 'a long time' is different.

If the patient is high risk, assessment of their motivation towards quitting should then be carried out and tobacco cessation resources provided for when he or she is ready to reduce their risk. Assistance can include guidance to using counselling services, or information about nicotine gum and patches.

Alcohol

Patients should be advised not to drink more than 14 units of alcohol per week. In cases of high alcohol intake, support services can be suggested or a referral to their general practitioner.

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You can obtain valuable information by recognising signs and symptoms.'

Protocol

If any suspicious lesions are detected they should be photographed, measured, and included in the patient's records. This ensures that any findings are both monitored and managed appropriately. To aid continuity of care, assessment, and support, a follow-up appointment should be booked.

Urgent referrals

Adult patients with a clinically evident suspicious lesion, or symptom(s) suggestive of malignancy, ought to be given an immediate urgent referral to a specialist which should ensure an appointment within two weeks.¹²

Prevention

Prevention is better than cure, and it is essential when it comes to lip care. Obviously, there is little we can do about many of the causative factors but there are a range of preventive measures aimed at reducing their impact. They are as follows.

Smoking cessation

When checking the medical history form, we need to ask patients if they have ever used, or

Viruses

We need to let patients know that smoking isn't the only risk factor. Informing them that the human papilloma virus (HPV), in particular variants HPV16 and HPV18 have also been linked to lip cancer (albeit tenuously), is essential as is raising awareness about the HPV vaccine.¹³

Diet and lifestyle advice

A poor diet leads to nutritional deficiencies, which compromises the immune system. The dental nurse can support in emphasising the value of a balanced and healthy diet to patients. Increased consumption of fruits and vegetables is associated with a lower risk of all cancer¹² and the antioxidant vitamins A, C and E and carotenoids (beta carotene) scavenge potentially mutagenic free radicals from damaged cells. A good natural source can be found in red, yellow, and green fruits and vegetables. Current advice is to eat up to ten servings of such foods a day.

Oral health information

Providing oral hygiene advice and reinforcing prevention subsequently helps patients to

improve their oral health and reduce risks. This includes brushing twice daily with a fluoride toothpaste and use of interproximal aids.

Sun exposure

By far the most important preventative measure is advice regarding sun exposure. A certain amount of sunlight is necessary for production of vitamin D, but it is useful to familiarise ourselves with the NICE guidelines regarding the risks and benefits, which recommends avoidance of sunburn, eg by seeking shade when outside for a prolonged period, especially in the middle of the day (11 am to 3 pm). It is advisable to wear a wide brimmed hat offering shade to the lips and face and use an SPF lip balm with a minimum sun protection factor of 15. We should also advise against the use of sunbeds and tanning salons.¹⁴

Conclusion

The dental nurse has a vital role in raising awareness about lip cancer and helping to detect it early. They can educate patients about its appearance, encourage them to regularly inspect their mouths and lips and seek immediate help if concerned about anything they discover. Treatment is far more successful if the cancer is caught early, the lesion is small and there is no lymph node involvement or distant metastasis.

Patients often ask questions about their treatment plans after they leave the surgery. A well-informed nurse not only shows the depth of his or her knowledge, but also increases patients' trust in the practice and helps ease any anxiety.¹ By working together, we can keep that smoothest muscle fit!

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