

IN BRIEF

Discusses:

- The importance of a thorough oral examination.
- Tumour as a possible differential diagnosis of a rapidly loosening denture.
- The role to be played by clinical dental technicians.

An undiagnosed case of malignancy: Case report

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The following report describes the treatment carried out by a UK high street dental technician on an elderly patient with a large malignancy invading the oral cavity through the hard palate from the nose. The lesion remained undiagnosed during treatment for three months. The consequences of this error, and the future role of the clinical dental technician are discussed.

INTRODUCTION

An 85-year-old female patient attended the Eastman Dental Hospital following referral from an ear, nose and throat surgeon. The patient had been diagnosed with a transitional cell carcinoma of the nasal septum (Fig. 1), which had invaded the oral cavity and presented with a large swelling of the hard palate (Fig. 2). The patient had been referred for the construction of a surgical plate to obturate the post-surgical defect, which would follow removal of the tumour from the hard palate.

A complete patient history was taken. The patient had been a denture wearer for 20 years. Although she had worn an upper complete denture for this length of time, she had never worn a lower complete denture. Three months previously, the patient experienced a sudden loss of retention of her upper complete denture. She attended a local high

street denture technician who constructed a new denture. The patient reported that this denture was retentive initially but became loose within a few days. She returned to the dental technician who adjusted the denture, which again increased its retention. A few days later the same problem occurred, and the denture was adjusted again. This situation continued for three months, until following an examination of the oral cavity, the dental technician suggested the patient visited her dentist. Unfortunately the patient was not registered with a dental practitioner, and was seen by her general medical practitioner who, following examination, referred her to the Royal National Throat, Nose and Ear Hospital in London.

The patient was then examined, and impressions taken. Surgery was carried out, and a surgical plate fitted, which was later converted into a full coverage prosthetic obturator to cover the surgical defect (Fig. 3). Following this, the patient received a course of radiotherapy. The patient has experienced no recurrences, and continues to wear her obturator.

DISCUSSION

The incidence of lip, mouth and pharyngeal cancer is relatively low, but increasing, with approximately 4,500 new cases being diagnosed each year in the United Kingdom. It is associated with a poor survival rate at five years of between 44% (male) and 52%

(female).¹ As well as primary lesions in the mouth, tumours may also arise as a result of metastasis² or invade the oral cavity from adjacent tissues such as the nose.³ Nasal Transitional Cell Carcinoma is a rare malignancy which accounts for 8% of carcinomas of the nasal cavity and paranasal sinuses.⁴ In both oral and nasal cancer, diagnosis of an early stage tumour is essential, and is an important indicator of prognosis and hence survival.^{5,6}

Delays in diagnosis^{7,8,9} and misdiagnosis¹⁰ of cancers presenting in the mouth have been reported in the literature. These have been due to errors by a range of healthcare professionals including referring practitioner, maxillofacial surgeon, and oral pathologist.¹¹ A study¹² investigating the culpability for delay in treatment looked at 1,000 cases of cancer originating at different sites around the body, and laid the blame on the following:

- Patients, when a delay of over three months elapsed between onset of symptoms and visiting their physician and when they refused to accept their advice.
- Physicians if they committed one of the following:
 - Wrong treatment.
 - Wrong advice.
 - No treatment or advice.
 - Acceptable treatment but delayed referral when no improvement for a month or more.

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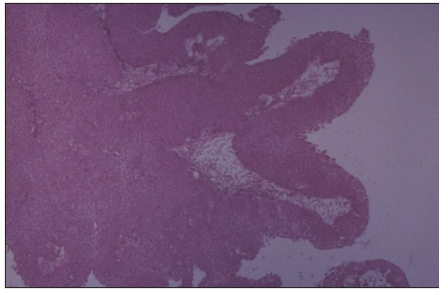


Fig. 1 Histology slide showing the patient's transitional cell carcinoma

- Unable to diagnose within a month, implying observation without treatment.
- Patients and physicians were considered jointly responsible when errors relating to both occurred.

The majority of referrals for treatment of oral cancer come from general dental practitioners, though general medical practitioners also refer patients and have been shown to be better at diagnosing oral malignancy and referring patients early.⁷ Despite delays in referral by both types of practitioners, the most significant delay is still caused by the patient.¹³

Dental technicians carrying out clinical treatment legally or illegally have been given a variety of names, including denturists, denturologists, dental mechanics, or denture therapists.¹⁴ In Canada they have been carrying out clinical work legally since 1958, after organising public support.¹⁵ A survey regarding the opinions of dentists 20 years later showed the majority thought it was possible to work closely with a denturist, though they did not think they should be allowed to treat patients with natural teeth remaining.¹⁶

The number of people seeking treatment from dental technicians in the UK is unknown as any form of clinical treatment by them is illegal and therefore difficult to determine. Although dentists already provide a service for new and replacement dentures it is important and sometimes difficult to understand why they would need to visit a dental technician for treatment. In countries where denturism has been legal for some time, studies have shown that patients were equally satisfied with complete dentures provided by either dentists or denturists^{17,18} when they were not seeking to replace their dentures. However, mandibular dentures were more successful when provided by dentists in studies where patients were seeking replacement prostheses.¹⁹ From a patient's viewpoint, there appears to be little difference in perceived quality of care between dentists and denturists when information regarding this is available to patients,¹⁷ or not available when denturism is provided

illegally.²⁰ Patients attending both dentists and denturists come from similar socio-economic backgrounds and on average pay similar fees for their dentures¹⁹ despite an attempt by some countries to introduce denturism to decrease the cost of prostheses.²¹ Interestingly, in a study looking at secondary school students' knowledge of oral cancer prevention and risk factors, a small percentage said a dental technician would be their first port of call on discovering a suspicious lesion.²²

Where denturism is legalised, it has been found that those dental technicians who are not licensed continue to practice illegal dentistry and even those who legally practise it often provide treatment they are not supposed to.²³ Denture technicians in the UK have no direct clinical role in the treatment of patients at present. General Dental Council (GDC) regulations prohibit clinical examination or treatment, though this situation will change when the role of clinical dental technician is established in the near future. Plans are already underway to extend the role of professions complementary to dentistry, and the establishment of the clinical dental technician is one of many ways in which the traditional service provided by general dental practitioners will be delegated to other professional colleagues.

At present, the only clinical professions complementary to dentistry are dental hygienists and dental therapists, both who work to prescription from registered dentists. This situation has been mutually beneficial, though hygienists and therapists have both had considerable training in clinically related matters. In countries where denturism is legal, co-operation between dentists and denturists is common, with both groups benefiting from more referrals from those they refer to.²⁴ It has also been reported that following examination by dentists, patients appear to have better quality dentures (complete) when they have been provided by a trained denturist as compared to an illegally practising technician.²⁵

This case report illustrates the importance of training in clinical examination, and also the importance of regular examination of edentulous patients. The delay in referral undoubtedly contributed to the morbidity associated with the case, in terms of the radical excision and radiotherapy needed. It would be hoped that the future training of clinical dental technicians would either involve working to a prescription from a registered dental practitioner, or would provide sufficient diagnostic skills to refer when necessary. As well as malignancy, non-fatal mucosal lesions associated with dentures are common in the elderly²⁶ and sometimes require

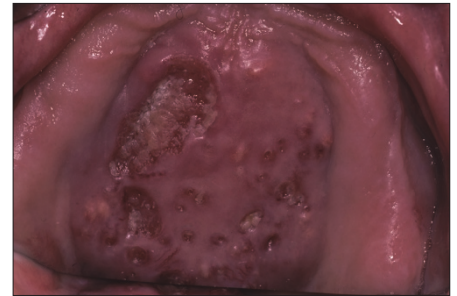


Fig. 2 Palatal view at initial presentation

pre-prosthetic management.²⁷ A proposed learning outcome set by the GDC is that clinical dental technicians should 'be competent at recognising abnormal oral mucosa and related underlying structures and at making an appropriate referral'.²⁸ It would also be hoped that any future changes in the way that care is provided in the primary care setting, would include remuneration to general dental practitioners for examining edentulous patients as it does at present. Although no studies have shown screening reduces patient mortality, oral and oro-pharyngeal cancers found as a result of non-symptom driven examination have been found to be associated with a lower TNM stage which may require less aggressive and debilitating treatment to be carried out.²⁹

Clinical treatment provided by high street dental technicians, apart from denture repairs needing no clinical treatment, is to be deplored. Although the potential for serious consequences resulting from non-diagnosis of malignancy presenting in the mouth by professions complementary to dentistry have been recognised for some time, no cases appear to have been documented.

Changes in legislation allowing the establishment of the clinical dental technician should be welcomed, as this will provide the necessary clinical training in areas excluding prosthesis construction, necessary for oral disease diagnosis.²⁸ Hopefully the training places needed will be developed to fulfil this role quickly, unlike the case in New Zealand where despite changes in the law it took 11 years before anyone graduated in the discipline.³⁰ It is hoped



Fig. 3. Surgical defect one year after removal of the tumour

that this case report will be unique and no further cases are reported, and with good training established under the GDC regulations, malignancy should be detected early by a greater range of dental professionals as it has in other countries.²⁹

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