

## ORIGINAL ARTICLES

## Survey of hospital doctors' attitudes and knowledge of oral conditions in older patients

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### Abstract

The study was designed to assess the views and knowledge of hospital doctors in general and geriatric medicine on oral health in older people. Eighty two doctors in general and geriatric medicine at two hospitals were shown 12 colour slides of oral mucosal conditions and asked to give a diagnosis for each slide and complete a questionnaire. Completed questionnaires with the answers to the coloured slides were returned completed by 70 doctors.

The majority of doctors (84%) felt it was important to examine older patients' mouths, however only 19% ( $\chi^2$   $p=0.0001$ ) routinely do so. If asked to prescribe nystatin by the nursing staff, 30% said they would do so without examining the mouth itself. Only 9% of doctors knew that wearing dentures was a specific risk factor for oral candidiasis ( $\chi^2$   $p=0.001$ ). Altogether 56% of doctors did not feel confident in examining the oral cavity and most (77%) did not think they had had sufficient training in this examination. Only two doctors correctly diagnosed all of the slides. An early squamous carcinoma was misdiagnosed by 80% of the doctors ( $\chi^2$   $p=0.0001$ ).

Hospital doctors do not routinely inspect older patients' mouths. Even if shown slides of typical oral mucosal lesions many hospital doctors are unable to diagnose them. Issues on training need to be addressed. From the patients' point of view a public health campaign is

required to educate older people on the need for a regular dental review and be aware that doctors may not be able to diagnose serious oral conditions.

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Over 200 pathological conditions of the oral mucosa have been identified.<sup>1</sup> Many of these lesions occur most frequently in older adults, probably because of an increased exposure to contributing risk factors over time. The lesions most prevalent in the general population include leukoplakia, lichen planus, candidiasis, oral cancer (all with an increasing prevalence with increasing age), recurrent aphthous ulcers, and recurrent herpes labialis.<sup>1</sup>

Inspection of the oral mucosa by a doctor has been accepted as part of the physical examination for over a century. If this examination is omitted in older patients this may lead to failure to identify abnormal oral mucosal lesions with adverse consequences for the patient.

### Methods

Eighty two doctors in general and geriatric medicine in a district general hospital and teaching hospital were given a questionnaire (available from the authors) during a post-graduate meeting and shown 12 slides of oral mucosal conditions (table 1) and asked to give a diagnosis for each slide. The slides were of textbook quality<sup>2</sup> and all participants had an equally good view of the slides. The questionnaire was returned immediately after the meeting so there was no opportunity to consult a textbook. None of the doctors who participated had studied dentistry before. Seventy (85%) returned a completed questionnaire, including 15 house officers, 38 senior house officers, three specialist registrars, three staff grades, and 11 consultants.

### Results

The majority of doctors 84% (59/70) felt it was important to examine older patients' mouths, however only 19% (13/70;  $\chi^2$   $p=0.0001$ ) reported that they routinely examined all elderly patients' mouths and few 21% (15/70;  $\chi^2$   $p=0.0001$ ) routinely inquired of older patients if they had any specific oral problems. If asked to prescribe nystatin by the nursing staff 21 doctors admitted they would do so without examining the mouth itself. In an open

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Figure 1 Slide showing early squamous carcinoma (reprinted with permission).

Table 1 Slide number compared with correct diagnosis

	Correct	Incorrect
(1) Purpura tongue	37	33
(2) Acromegalic mouth	27	37
(3) Acute gingivostomatitis	28	42
(4) Atrophic candidiasis	4	66
(5) Hairy tongue	35	35
(6) Median rhomboid glossitis	2	68*
(7) Major aphthous ulcer	40	30
(8) Leukoplakia	36	34
(9) Squamous cell carcinoma	14	56*
(10) Geographical tongue	29	41
(11) Ranula	17	53
(12) Gum hyperplasia	39	31

\* $\chi^2$  p=0.0001.

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ended question doctors were asked if they knew any specific risk factors for oral candidiasis and only six specifically mentioned wearing dentures ( $\chi^2$  p=0.001). Only four doctors specified treatment of dentures as other advice they would give to patients with oral candidiasis.

While 56% (39/70) of doctors did not feel confident in examining the oral cavity for abnormalities, seven were not sure and 24 felt confident. Unfortunately there was no correlation between doctors feeling confident and making a correct diagnosis from the slide. The majority of doctors (54/70) did not think they had had sufficient training in examination of the oral cavity for detection of abnormalities.

### Discussion

For many doctors oral health may be thought of as a specialty that is the domain of the dentist. Unfortunately less than a third of the population in the UK over the age of 75 years are registered with a dental practitioner.<sup>3</sup> For frailer older adults the figure maybe even lower with one study finding that only 7% visited a dentist on a regular basis.<sup>4</sup> This is unfortunate as the prevalence of most oral mucosal lesions increases with age. The dental practitioner provides an important role in screening the oral mucosa not just inspecting teeth on a six monthly basis. Earlier detection of conditions such as squamous cell carcinoma might be expected to result in better outcome for patients.

Although most doctors in this study (84%) felt it was important to examine older patients' mouths, few (19%) routinely did so and the majority (77%) did not think they had had sufficient training or felt confident in performing the examination (56%). As a questionnaire study, the answers given might reflect what responders felt ought to be the case rather than what they believed. However, as the answers to the questionnaire were anonymous this is unlikely.

The 12 slides shown covered a small spectrum of potential oral conditions. Of concern was the finding that only 20% (14/70;  $\chi^2$  p=0.0001) of doctors correctly diagnosed a slide (fig 1) showing an early squamous cell carcinoma of the buccal mucosa. Oral carcinoma is the most serious of the oral mucosal lesions; 98% of cases occur in persons over the age of 40.<sup>3</sup> The incidence increases with age.

### Key points

- Few hospital doctors routinely examine older patients' mouths.
- Few hospital doctors feel they have had sufficient training in examining the oral cavity.
- When shown textbook slides of oral conditions few doctors can accurately diagnose them.

Early detection improves the five year survival rate from 50% to 80%. This has important implications especially for the patient who may mistakenly think that the doctor's examination supersedes or makes a dental examination superfluous.

It was disappointing to find that few doctors would give advice to patients with oral candidiasis on dentures since eradication therapy is superfluous if dentures are not also dealt with as they may act as a reservoir of infection. Patients with denture associated oral candidiasis should be instructed not to wear their denture for at least eight hours of a 24 hour day. In addition the dentures should be cleaned and disinfected on a daily basis to prevent reinfection. A comparison of fungal contamination of dentures cleaned by brushing and those soaked in a commercial enzyme-containing denture cleaning solution found that soaking alone was as effective in eliminating candida as soaking and brushing and far more effective than brushing without soaking.<sup>6</sup> Soaking the denture in 0.12% chlorhexidine solution has been demonstrated to be effective,<sup>7</sup> although soaking in nystatin solution is not.<sup>8</sup> Disinfection can also be achieved by soaking in a 1:10 dilution of household bleach, commercial denture cleanser, alkaline peroxide,<sup>9</sup> or benzoic acid.<sup>10</sup>

It is sad to find that some doctors (30%) would prescribe nystatin if requested by the nursing staff without examining the mouth. Firstly the diagnosis maybe incorrect. Although acute pseudomembranous candidiasis is readily identified, other forms of oropharyngeal candidiasis, for example acute atrophic candidiasis (bright red tongue), may be less readily appreciated. Not all sore mouths are due to candida—for example, haematinic deficiency. In addition the doctor needs to identify any underlying predisposing systemic condition (for example, diabetes mellitus) or current medication (for example, steroids) that have predisposed to candida and if possible alter to help resolution of infection. Assessment of the patient for any other oral disorders that require treatment, use of dentures, and the type, severity, and chronicity of oral candidiasis should be documented. Nystatin is relatively ineffective in the oral candidiasis that occurs in immunocompromised patients,<sup>11</sup> in contrast to fluconazole,<sup>12</sup> which is effective. Nystatin may not therefore necessarily be the appropriate treatment.

Hospital doctors do not routinely inspect older patients' oral cavity, although most think it is important to do so. The overlap between

31/70 who felt confident about oral examination and 54/70 who felt they had had insufficient training may reflect self education. Failure to carry out oral examination is probably multifactorial and includes insufficient time, insufficient training, and lack of confidence. Even if shown slides of typical oral mucosal lesions, many hospital doctors are unable to diagnose them accurately. Issues on training for doctors need to be addressed but whether this can be done readily in the present climate is debatable. From the patients' point of view a public health campaign is required to educate older people on the need for a dental review on a six to 12 monthly basis even if edentulous. Problems in implementing this include obtaining financial support from an underfunded National Health Service to initiate such a campaign and support increased dental services where required. Overcoming patients' fears of expense in treatment may require practical financial assistance. In addition, reaching frail older patients with mobility problems maybe difficult. In a recent study that looked at oral health in older occupants in residential homes, only 4% of the edentate and 20% of the dentate residents had seen a dentist in the last two years despite many having oral health problems.<sup>13</sup> A possible solution is to increase the domiciliary dental service for older people.

Preserving oral health and avoiding oral disease should be of interest to all health providers who care for older persons. Patient education is essential and increasing availability of dental care for our older population should be on the agenda of the Department of Health.

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