

Improving the prognosis of oral squamous cell carcinoma in 2013

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EDITORIAL

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As we find ourselves once again in Mouth Cancer Action Month it is salient to recall a *BMJ* editorial in 1994 which concluded that national campaigns and comprehensive teaching of medical and dental undergraduates would be necessary to immediately improve the prognosis of oral squamous cell carcinoma (OSCC).¹ It was a plea for the education of patients so that they recognised that their symptoms might possibly be caused by cancer in the hope that they would then see their primary care practitioner (PCP) straight away; and for practitioners to recognise the cardinal signs of OSCC and refer early to the correct surgeon in their vicinity.

As a result of this the world's first National Mouth Cancer Awareness Week (MCAW) was organised in 1995 by The British Association of Oral and Maxillofacial Surgeons. Over 5,000 patients attended walk-in clinics at their local oral and maxillofacial department with 27 new cases of mouth cancer and 47 suspicious cases identified. A subsequent study of 100 consecutive mouth cancer patients showed that their knowledge had jumped to 50%, and their mean delay before presenting to primary care had dropped to 6 weeks and presenting with earlier stage disease. Interestingly, they reported that their improved knowledge came from newspapers, television and conversations with friends whereas very few of them reported any benefit from health promotion leaflets or health warnings. GPs were more likely to refer immediately than GMPs but unfortunately, many of the patients still presented to GMPs first.

Since that first MCAW, Denplan and then the BDHF have taken on the task of running UK mouth cancer awareness campaigns. In the ensuing 18 years many improvements have been made in the diagnosis, staging, surgery, reconstruction, radiotherapy, chemotherapy, rehabilitation, and emotional and psychological support of patients with mouth cancer.

ONGOING RESEARCH

In terms of research, molecular biologists² are studying genetic markers that can determine those premalignant lesions that will progress to cancer. These markers could also detect recurrence after treatment. Stem cell researchers³ are studying those cancer cells that exhibit immortality rather than the larger population of cancer cells that will never divide and simply die naturally. Clearly these stem cells are the targets that clinicians should aim to destroy but unfortunately they seem resistant to current radiotherapy and chemotherapy regimes. These cells also seem to be the ones

that can metastasise. Other cells that are coming under scrutiny are tumour fibroblasts and blood vessel progenitor cells. Oncologists are now assessing better agents to target the cancer cells or their blood supply specifically. These agents are usually antibodies to growth factor receptors on the cancer cell itself. They have the advantage of causing minimal harm to the majority of normal cells as they only target cells that carry the receptor. Other researchers are exploring the possibility of mouth cancers of viral origin. Much interest has been generated by the role of HPV 16 in oropharyngeal cancer and the possibility that vaccination against this virus will reduce the incidence of this cancer in young people.

But as the 1994 *BMJ* editorial stated the best way we can improve the prognosis for all mouth cancer patients is to get them from the street to the PCP rapidly and then to the correct surgeon by immediate referral. While we can applaud the improvement in patient and PCP knowledge from successive campaigns there remains a significant cohort of patients still presenting with advanced disease and poorer cure rates despite more costly and invasive treatment. Studies of telephone enquiries to GMPs' and GPs' receptionists demonstrate that these 'gatekeepers' should also be included in further mouth cancer education. Male patients from low socio-economic groups still have not absorbed the message that their mouth ulcer might be cancerous.

There is one innovation that will already aid this rapid transit from PCP to surgeon. The Saving Faces Charity has piloted an electronic diagnostic service for PCPs. This gives valuable advice on each referral and recommends to whom the patient should be referred and the urgency with direct email and fax numbers for the surgeon. The response time is within three working days; 70 patients have been referred, two of whom had cancer. They were seen at their local hospitals by the treating surgeon within two days of referral with excellent outcomes. However, we still have to find better methods to inform the low socio-economic male patient as a target group.

1. Hutchison I L. Improving the poor prognosis of oral squamous cell carcinoma *Br Med J* 1994; **308**: 669–670.
2. Teh M-T, Hutchison I L, Costea D E, Neppelberg E, Liavaag P G, Purdie K, Harwood C, Wan H, Odell E W, Hackshaw A, Waseem A. Exploiting FOXM1-orchestrated molecular network for early squamous cell carcinoma diagnosis and prognosis. *Int J Cancer* 2013; **132**: 2095–2106.
3. Biddle A, Liang X, Gammon L, Fazil B, Harper LJ, Emich H, Costea D E, Mackenzie I. Cancer stem cells in squamous cell carcinoma switch between two distinct phenotypes that are preferentially migratory or proliferative. *Cancer Res* 2011; **71**: 5317–5326.

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