Heart of the matter

R. A. Seymour

This is the second article in a series written by a selection of experts who willl be speaking at this year's National Dental Conference: Best Practice 2001. In this issue, Professor R. A. Seymour explores what we should be telling our patients about coronary artery disease (CAD) and oral health.

The past ten years has seen a great deal of interest in the association between oral health and coronary artery disease. The evidence linking these two common conditions was reviewed in the *BDJ*[1].

Subsequently, there have been further studies that have substantiated the association. It has now been demonstrated the extent and severity of periodontal disease is directly associated with the risk for CAD. In other words, the more severe the periodontal breakdown, the greater the risk of coronary artery disease[2].

In addition, further studies have helped to elucidate mechanisms. Patients with periodontal disease have elevated levels of serum triglycerides and cholesterol when compared to age and sex matched controls[3]. In both groups there was no confirmed history of CAD.

To summarize, there is sufficient evidence to show that poor oral health, especially the extent and severity of periodontal disease, is strongly associated as a risk for myocardial infarction and CAD. A variety of mechanisms have been suggested that can account for this association and such mechanisms further substantiate the association.

However, the main weakness in this area is that causality has not been established and until this is so, there must be a guarded approach to patients. Interventional studies are required to observe the impact of improved oral and periodontal health on the prevalence of further coronary events in subjects at risk from such events. It needs to be established that improving a patient's oral health significantly reduces the incidence of further coronary events. Only by doing so will causality be confirmed and the status of oral health as a risk factor for CAD will be similar to smoking and cholesterol.

An intervention study will require a large population and a long-term (at least five years) follow-up to obtain a meaningful outcome. Many patients after their first indication of CAD (i.e. angina or myocardial infarction) will change their lifestyle, and such a change needs to be interpreted with any improvement in oral care.

Until recently, attention to oral hygiene has targeted preservation of the teeth and supporting structures. The mounting evidence linking periodontal disease with CAD would suggest that further general health benefits might accrue from maintaining a high standard of oral care and hygiene. However, it is too early to say that failure to achieve good oral hygiene or treat periodontal disease will result in patients suffering from CAD.

For patients with existing CAD or a recent history of myocardial infarction, then a positive oral health message should be delivered. For example, it should be explained to such a patient that there is an association between oral health and CAD and that their present oral health status could have contributed to their cardiac problems. Furthermore, improving their oral health, together with reducing other risk factors, may reduce the incidence of further coronary disease.

In our review article[1], we concluded as follows: 'There is probably now enough evidence to suggest that there is a relationship between CAD and oral health, and we as dentists should begin to be interested'. Events have moved on since that statement was made and the evidence is accumulating. It remains for causality to be established. Despite this, dentists and other oral health care professionals should target those patients either suffering from CAD or at risk from such a disease and emphasize the added advantage of good oral health care.

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1 Seymour R A, Steele J G, Is there a link between periodontal disease and coronary heart disease? *Br Dent J* 1998; **184**: 33
2 Arbes S J Jr, Slade G D, Beck J D. Association between extent of periodontal attachment loss and self-reported history of heart attack: an analysis of NHANES III data. *J Dent Res* 1999; 78: 1777-82.
3 Cutler et al, Association between periodontitis and hyperlipidenia — cause or effect? *J Periodontol* 1999; 70: 1429-1434

Professor Seymour will be speaking on 'Hearts and Gums' on Saturday 5th May in the session 'Besting the Bugs'.

The programme session also includes:

Are you providing the most effective periodontal care? Can chemotherapeutic agents help? Speaker: Professor Richard Palmer

Bugs in teeth. Speaker: Kishor Gulabivala

Drug abuse — best practice with antibiotics. Speaker: Michael Martin
Best Practice 2001

The Best Practice 2001 Conference will take place between 3–5 May 2001 at the Harrogate International Centre. For a copy of the registration form please contact the Events Office on 0207 563 4590.