BRITISH DENTAL CONFERENCE & EXHIBITION

Two implants for all edentulous mandibles

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Complete dentures have always been a poor substitute for natural teeth. Mandibular complete dentures frequently cause pain and discomfort, accelerated residual bone resorption, while failing to restore effective chewing. The provision of two implants to stabilise the mandibular complete denture can result in significant improvements.

McGill consensus statement on overdentures

Following a symposium held at McGill University in Montreal, Canada, in 2002, a panel of experts prepared the following statement:

'*The evidence currently available suggests that the restoration of the edentulous mandible with a conventional denture is no longer the most appropriate first choice prosthodontic treatment. There is now overwhelming evidence that a two-implant overdenture should become the first choice of treatment for the edentulous mandible.*'[1]

Epidemiology

Total tooth loss is not rare, the Adult Dental Health survey in 1998 showing about 1-2% of the sample becoming edentulous in the preceding decade.[2] Projections show there will still be about 2 million complete denture wearers in 2018.

Success of complete dentures

Edentulous housebound pensioners demonstrate a wide range of foods that they are unable to eat and limit their diet significantly because of their loss of teeth.[3] Provision of new complete dentures using a variety of techniques consistently fails to improve functional parameters although careful management of such patients can improve patient satisfaction.[4] Conversely, the provision of implant stabilised lower mandibular complete dentures can be shown to improve maximum biting force and masticatory effectiveness while preserving the mandibular residual ridge[5] (Figs 1-2).

Patient opinion

Early use of fixed prostheses to restore the mandibular edentulous arch led to initial patient satisfaction compromised by the opposing maxillary complete denture. This led in many cases to the provision of maxillary fixed prostheses. However, such prostheses have disadvantages, not least the high cost and maintenance requirements. While younger patients tend to choose fixed prostheses because of their functional superiority, older patients choose overdentures because of the ease of maintenance.[6] Masticatory performance has been shown to be equally good with fixed complete dentures, long bar overdentures, and two implant hybrid overdentures.[7,8] There is however some indication that there is a greater need for prosthetic interventions, modifications and repairs in a two implant overdenture protocol.[9,10]

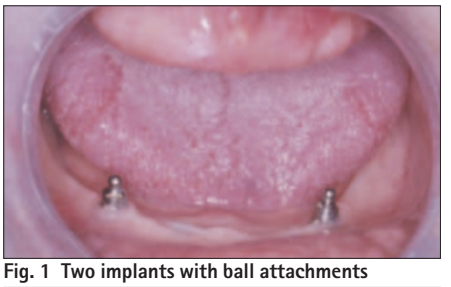

Fig. 1 Two implants with ball attachments

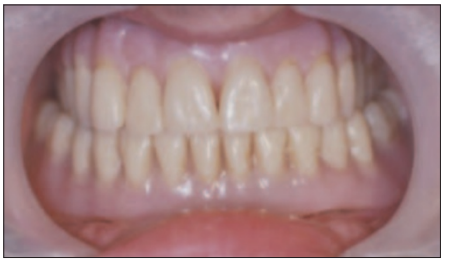

Fig. 2 Overdenture stabilised by ball attachments

One example of a study of quality of life will serve to demonstrate the oral health impact on daily performance. Patients with implant stabilised overdentures reported less impact on eating food, speaking clearly, smiling, 'going out', and contacting other people. They reported they experienced less difficulty in eating different types of food and were generally more comfortable compared to patients with complete dentures.[11]

Cost of treatment

The provision of implant stabilised complete dentures does appear to be more expensive than the provision of conventional complete dentures, even when the maintenance costs up to one year following delivery of the prosthesis are included.[12] However, the difference in cost was not as great as might be predicted. Further, calculation of cost item effectiveness ratios per unit of improvement in the patient's quality of life, suggest that treatment with implant stabilised prostheses is more cost effective than treatment with conventional dentures.[13] There is also preliminary evidence that the provision of implant stabilised dentures causes patients to modify their diet and improve their nutritional state. It has been proposed that poor nutrition has a significant effect on the general health, activity levels and well being of older people.[14] Therefore, the provision of two implants for all edentulous mandibles must be justifiable.

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Professor Wright will be speaking on 19 May 2006 at the **2006 British Dental Conference and Exhibition** at the **International Convention Centre (ICC)** in Birmingham.

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