PROSTHODONTIC COMPLICATIONS ASSOCIATED WITH IMPLANT RETAINED OVERDENTURES USING THE LOCATOR ABUTMENT SYSTEM

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Introduction:

Implant retained overdentures have been successfully used to rehabilitate edentulous patients for over 30 years. These prostheses may be retained by bars, balls, magnets or Ceka (PREAT Corporation, California, USA) attachments. Regardless of attachment type, following insertion, implant retained overdentures appear to be associated with a high incidence of prosthetic complications. These complications can occur on a regular basis and their management can be expensive and time consuming for the patient, clinician and technician. Locator® attachments (Zest Anchors LLC, California, USA) have recently been developed. Clinical experience suggests that these attachments are associated with few prosthodontic complications; however, no evidence has been published to substantiate this claim.

Aim:

To assess prosthodontic complications in edentulous patients following the provision of implant retained overdentures using the Locator® attachment system.

Method:

All edentulous patients treated with Locator® attachments in the Department of Restorative Dentistry, Charles Clifford Dental Hospital, Sheffield between January 2008 and December 2009 were identified using a laboratory database.

Inclusion criteria:
1: Loading of implants delayed for at least 3 months following placement.
2: Implants restored with freestanding Locator® abutments
3: 1 year minimum follow up following insertion of definitive overdenture

Information was collected retrospectively from the case notes. Any complications occurring following insertion of the definitive overdenture were recorded.

Results:

54 consecutive patients meeting the inclusion criteria were identified. However, the case records of 4 patients were unavailable (1 deceased). The remaining 50 patients (males: 19, females: 31, overall mean age: 67 (sd 11.17), age range: 38-92) received 52 implant retained overdentures (upper: 13, lower: 39). Upper overdentures were usually retained by 4 implants (76%, n=10) and lower overdentures were usually retained by 2 implants (80%, n=31). 25 overdentures (48%) were provided by Consultants and 24 overdentures (46%) were provided by General Dental Practitioners on the Sheffield “One-to-One” implant course. The remaining overdentures (6%) were provided by Specialist Trainees. 37% of
overdentures (n=19) had been in service for greater than 2 years. 51 denture bases (98%) were constructed from acrylic.

Prosthodontic complications associated with these 52 overdentures necessitated 97 additional appointments over the study period with a mean of 1.87 (sd 1.58) appointments per overdenture (range 0-4). 16 overdentures (31%) required no additional appointments and 17 overdentures (33%) required just one additional appointment. The most commonly reported complications were denture adjustment (34%, n=33), problems with retention necessitating a change of retentive inserts (30%, n=29), loose or lost abutments (14%, n=14), replacement of retentive housings (11%, n=11) and fractured teeth or denture base (5%, n=5). One implant failure was reported in the maxilla. 66 complications (68%) occurred within the first 6 months, 85 complications (88%) occurred within the first year.

Conclusions:

Freestanding Locator® abutments can be successfully used to retain implant overdentures in both the maxilla and mandible. The incidence of prosthodontic complications associated with Locator® attachments appears comparable with other attachment mechanisms. The complications associated with Locator® retained prostheses can usually be easily remedied with simple chairside procedures.