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Tooth-Supported Overdenture With Ball and Socket Attachments - Case Report

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Objectives The object of this clinical case report is to present an alternative treatment option with a tooth-supported overdenture with ball attachments for a partially edentulous patient with two intact natural teeth and with certain limitations for other prosthetic or implant treatment.

Methods Case report

A 58-year-old female patient with a partial edentulism on the upper jaw with intact canines, pathological mobility of teeth 11, 12, 21, 22 and tooth migration (Godon's phenomenon) of teeth 16-17 looked for our help. For optimal prosthetic results tooth-supported overdenture was a treatment plan of choice. Teeth with mobility and pathological migration were extracted and canines were endodontically treated. Preparation of the canines, including coronectomy and intraradicular preparation to accommodate ball attachments, was performed. After gingival retraction impression was taken (elite HD+, Zhermack). Ball attachments were casted using matrix and patrix 1.7mm from Bredent. In the next visit attachments were cemented (GC FujiCEM™ 2), sleeves were placed on top of them and functional impression with individual tray was taken (3M Impregum™ Soft). Central relation was registered with occlusal rims followed by try-in step. Overdenture was invested and regular snaps (yellow) were used as retentions inside the matrices and delivered to the patient.

Results The treatment resulted in good aesthetics and functional outcomes, with good retention and stability of the denture.

Conclusions Tooth-supported overdenture is an optimal treatment option for partially edentulous patients and it can restore function and aesthetics. With precision attachments good stability and retention of the denture can be achieved. The prophylaxis that can be accomplished is significant – with preservation of natural teeth atrophy of alveolar bone is reduced; the sensory function of periodontal ligament is saved and it's regulating the physiological way of masticatory force transmission and crown-to-root ratio is enhanced, prolonging the survival of abutments.