

**PREPARATION OF PATIENTS WITH DIABETES MELLITUS AND COMPLETE EDENTULISM FOR DENTAL IMPLANT PLACEMENT****Xalilova Maftunaxon Akmaljon qizi**

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**Annotation**

This research study discusses the key stages of preparing patients with diabetes mellitus and complete edentulism for dental implant placement. It highlights the importance of metabolic control, assessment of oral conditions, evaluation of bone tissue, and a comprehensive multidisciplinary approach. Factors influencing implant success and preventive measures are also analyzed from a scientific perspective.

**Keywords**

diabetes mellitus, dental implants, edentulous patients, glycemic control, osseointegration, bone resorption, oral hygiene, peri-implantitis

Dental implant therapy has become a widely accepted and effective method for the rehabilitation of edentulous patients, significantly improving oral function, aesthetics, and quality of life. However, in patients with systemic conditions such as diabetes mellitus, particularly those presenting with complete edentulism, implant placement requires a comprehensive and carefully planned preoperative approach. Diabetes mellitus is a chronic metabolic disorder characterized by impaired glucose regulation, which can adversely affect wound healing, bone metabolism, and the body's immune response. These factors collectively increase the risk of postoperative complications, including delayed osseointegration, peri-implantitis, and implant failure.

In completely edentulous patients, the absence of teeth is often accompanied by varying degrees of alveolar bone resorption, reduced bone density, and compromised soft tissue conditions. When combined with diabetes, these challenges become more pronounced, necessitating thorough clinical, radiological, and laboratory assessment prior to implant placement. Proper patient preparation is therefore a critical stage that determines the success and long-term prognosis of implant-supported prosthetic rehabilitation.

Preoperative preparation of diabetic patients includes the stabilization of glycemic levels, assessment of systemic health status, and collaboration with endocrinologists or general physicians. Glycated hemoglobin (HbA1c) levels are commonly used to evaluate metabolic control, with well-controlled diabetes (typically HbA1c < 7%) being associated with more favorable implant outcomes. In addition, oral cavity sanitation, elimination of inflammatory foci, and optimization of oral hygiene are essential to minimize infection risks. Furthermore, modern implantology emphasizes the importance of

individualized treatment planning, taking into account bone quality and quantity, the need for bone augmentation procedures, and the selection of appropriate implant systems and surgical protocols. Advances in digital diagnostics, such as cone-beam computed tomography (CBCT), allow for precise evaluation of anatomical structures and enhance the predictability of surgical outcomes.

Thus, the preparation of patients with diabetes mellitus and complete edentulism for dental implant placement represents a multidisciplinary process that integrates systemic disease management, local oral conditions, and advanced surgical planning. A well-structured preparatory protocol not only reduces complications but also significantly increases the success rate of implant therapy in this high-risk patient population.

The preparation of patients with diabetes mellitus and complete edentulism for dental implant placement involves several essential clinical and systemic steps. First, metabolic control is the primary requirement. Blood glucose levels must be stabilized, and glycated hemoglobin (HbA1c) values should ideally be within acceptable limits (usually below 7–8%). Poor glycemic control is associated with impaired healing, increased risk of infection, and reduced implant success rates.

Secondly, a comprehensive clinical and radiological examination is necessary. Evaluation of bone volume, density, and anatomical structures using modern imaging techniques such as CBCT allows for accurate treatment planning. In edentulous patients, bone resorption is common; therefore, additional procedures such as bone grafting or sinus lifting may be required before implant placement.

Oral cavity preparation is another crucial stage. This includes professional oral hygiene, elimination of any inflammatory processes, and ensuring optimal soft tissue condition. Even in fully edentulous patients, mucosal health plays a key role in successful implant integration.

In addition, interdisciplinary collaboration is important. Consultation with endocrinologists or physicians helps in managing systemic conditions effectively. Antibiotic prophylaxis and careful surgical protocols are often recommended to minimize complications.

In conclusion, successful dental implant placement in patients with diabetes mellitus and complete edentulism largely depends on thorough preoperative preparation. Adequate glycemic control, proper assessment of oral and bone conditions, and a multidisciplinary approach significantly reduce the risk of complications and improve treatment outcomes. With careful planning and management, implant therapy can be a safe and effective solution even for high-risk patients.

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