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PRIKAZ SLUČAJA  
CASE REPORT  
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# MOGUĆI EFEKTI HIPERPARATIROIDIZMA NA GUBITAK OSEOINTEGRACIJE ZUBNIH IMPLANTATA: PRIKAZ SLUČAJA

## POSSIBLE EFFECTS OF HYPERPARATHYROIDISM IN THE LOSS OF OSSEOINTEGRATION OF DENTAL IMPLANTS: A CASE REPORT

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### Sažetak

**Uvod:** Hiperparatiroidizam (HPT) je čest endokrini poremećaj sa potencijalnim komplikacijama, vezanim za skeletni, bubrežni, neurokognitivni i kardiovaskularni sistem. Njegova povezanost sa nedostatkom oseointegracije zubnih implantata nije opisana u medicinskoj literaturi.

**Prikaz slučaja:** Ovaj prikaz slučaja ima za cilj diskusiju o dva slučaja gubitka zubnih implantata, zbog visokog nivoa parathormona (PTH), uz odsustvo bilo kog drugog sistemskog ili lokalnog komorbiditeta, što ukazuje na moguću korelaciju između HPT i odbacivanja implantata. Oba pacijenta upućena su na Kliniku sa žalbama na protetske komplikacije, upalu gingive i pokretljivost zubne proteze. Nakon procene Cone-Beam kompjuterizovanom tomografijom, svi implantati oba pacijenta su uklonjeni, zbog odbacivanja nastalog usled periimplantitisa, a zatim su četiri implantata umetnuta pacijentu i pet implantata pacijentu 2. Kod oba pacijenta korišćeni su kratki implantati (Bicon LLC, Boston, Massachusetts, USA), prečnika 4 mm i visine 5 mm i napravljene su protezne podstrukture od Trinia® (Bicon LLC, Boston, Massachusetts, SAD). U petoj godini posle ugradnje, pacijenti su prijavili komplikacije i neuspeh implantacije. Da bi se utvrdili uzroci nespuha, pacijenti su morali da urade test krvi kako bi procenili metabolizam kostiju i posebno da bi se procenili nivoi paratiroidnog hormona (PTH), kalcijuma i vitamina D.

**Rezultati:** Rezultati analize krvi pokazali su kod oba pacijenta normalnu kalcemiju, nedostatak vitamina D i povišen nivo PTH. Posle konsultacije endokrinologa, dijagnostikovano je sekundarni hiperparatiroidizam.

**Zaključak:** Sasvim je logično pretpostaviti da gubitak oseointegracije dentalnih implantata može biti u korelaciji sa efektima HPT.

**Ključne reči:** zubni implantati; hiperparatiroidizam; implantologija; osteointegracija; parathormon.

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### Abstract

**Background:** Hyperparathyroidism (HPT) is a common endocrine disorder with potential complications on the skeletal, renal, neurocognitive and cardiovascular systems. Its association with the lack of osseointegration of dental implants has not been described in the medical literature.

**Case presentation:** This case report aims to discuss two cases of dental implant loss in which a high level of parathormone (PTH) was found in the absence of any other systemic or local comorbidity, suggesting the possible correlation between HPT and implant. Both patients were referred to the clinic complaining about prosthetic complications, gingival inflammation and mobility of the dental prosthesis. After a Cone-Beam computed Tomography evaluation, all implants of both patients were removed for rejection arising from periimplantitis and then four implants were inserted in the patient 1 and five implants in the patient 2. For both patients short implants (Bicon LLC, Boston, Massachusetts, USA), featured by 4 mm in diameter and 5 mm in height, were used and the prosthesis substructure was made of Trinia® (Bicon LLC, Boston, Massachusetts, USA). During the fifth year, the patients reported complications and the implant treatment failure. In order to establish the causes of failure, a thorough investigation was performed. Since no causes were detected, the patients were required to perform a blood test to evaluate bone metabolism and specifically to assess parathyroid-hormone levels (PTH), calcium levels and vitamin D.

**Results:** The results of the blood tests showed normal calcemia, vitamin D deficiency and elevated PTH levels in both patients. After an endocrinologist's consultation, secondary hyperparathyroidism was diagnosed.

**Conclusion:** It is reasonable to assume that the loss of osseointegration of dental implants can be correlated with the effects of HPT.

**Key words:** dental implants, hyperparathyroidism, implantology, osseointegration, parathormone

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