Dental implants in patients affected by systemic diseases

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Systemic diseases and associated treatment can impair and induce complications of osseointegration. Since the beginning of implantology, some systemic diseases changed to pandemic manifestation and nowadays, it isn't recommended any more to exclude these patients from implant therapy. The scientific data reports evidences on implant survival and success criteria in patients affected by systemic diseases. But the issue remains the problem how to manage a patient with combination of systemic factors under certain medications and who requires implant treatment

The present study is addressing to the presence of different systemic factors affecting osseointegration and final treatment results. The second question was if the dental implant treatment could induce or affect a systemic pathology.

Materials and Methods

In period of 2014 - 2015, 105 patients with systemic manifestations were treated with dental implants in Centre of Regenerative Medicine from Orhei, Moldova. All of patients presented in medical history combination of different chronic manifestations under general pharmacological medication: diabetes mellitus with related vascular complications (retinopathy and diabetic foot), osteoporosis, cardiovascular and bleeding disorders, and lupus erithimathosis. One male patient presented a chronic autoimmune disorder (Myasthenia gravis) developed as result of perimplantitis inflammation.

Specific vascular changes of retina in diabetic patient

CT image of Myasthenia gravis

Results

The clinical group consisted of 56 males and 49 females (63.5 years old middle age) with type 2 diabetes, who were treated with 613 dental implants. Diabetes was associated with other systemic diseases in: 27 cases of osteoporosis, 12 cases of cardiovascular and bleeding disorders, 6 cases of lupus erithimathosis. In one 54 years old patient as a result of perimplantitis complicated with maxillary sinusitis an autoimmune disorder – Myasthenia gravis, appeared after 2 weeks of installation of local inflammatory complications. Every patient received 2-6 implants per jaw for fixed prosthetic rehabilitation. Minor bone augmentations were performed in 10 cases. 12 implants were lost during period of healing. 7 implants were lost in post-prosthetic period. All implants were lost in patients with recurrences of diabetic retinopathy. Pain, infection around the implants, neuropathy and paraesthesia was noted in 34 cases, when diabetes was associated with neuropathic foot complications. Bleeding on probing was documented in 59 of implants. Alveolar bone loss after 2 years of follow up was - 2.83 mm. Survival rate was calculated to 95.9%.

Conclusions and Clinical implications

The comparison of the clinical and paraclinical outcomes in this study indicates a promising survival rate for dental implant placement in patients with type 2 diabetes mellitus and associated with other systemic conditions. This should be interpreted with respect to the critical patient general medical status. To our knowledge for the first time we could investigate the role of inflammatory periimplant complications in triggering of autoimmune Myasthenia gravis.

Images of 4 implants placed in a patient with lupus erithimathosis