

Can proper implant placement alter type 2 diabetes and systemic inflammation: Effects of full mouth extractions restored by implant supported prosthesis on HbA1c & hsCRP in uncontrolled type 2 diabetes

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Diabetes mellitus and periodontitis are chronic multi factorial diseases that are common world. Uncontrolled diabetes, cigarette smoking, and a history of periodontal infection are suggested as relative contraindications for placing dental implants and as risk factors for implant failure. However, control of any morbidities may be more important than the diagnosis itself!

Periodontal infection adversely affects glycemic control. The objective of this research was to investigate—in persons with uncontrolled type 2 diabetes and end stage periodontal disease—the effect on glycemic control and systemic inflammation of:

- Full mouth extractions
- Complete full mouth debridement of all infection & granulation tissue
- Placement of Biochemically active dental implants (SLActive by Straumann)
- Immediate loading
- Restorations with CAD/CAM designed prosthetics

Material and Methods: Our study consisted of 150 participants with:

- Type 2 diabetes who had HbA1c levels above 7.5 for 6 months or more
- Terminal dentition due to advanced periodontal disease
- Loss of alveolar bone
- No other known source of inflammation

All teeth were extracted and replaced by implant supported bridges or over dentures. 2 Implants were used on the mandible and 4 implants were used in the maxilla for each candidate. The patients were followed over a 5-year period with “check ins” every 2 weeks. The check ins included a full mouth radiographic evaluation as well as blood samples for HbA and high sensitivity CRP (hsCRP).

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Results: As hypothesized, HbA1c and hsCRP levels decreased dramatically upon full mouth extractions and did not increase to the initial levels for 12 months after implant placement and loading. HbA1c levels decreased significantly by an average of 1.4, 2.2% (95% CI: 2.22; 0.54) from the original mean of 10.2%. The changes in inflammation were also as radical. The mean of hsCRP is 5.5% mg/dl from the initial values.

Conclusion: The findings from this study have significantly altered how we choose candidates for implant therapy. Patients who would like to opt for implant therapy rather than traditional dentures can now be certain that diabetes will impede them from getting fixed teeth. Likewise, you as a dental professional can feel fully confident that your implant will NOT fail due to systemic autocrine disease, as long as you ensure that proper protocol has been followed.

Biography

Aleem Rahman BDS, BMSC is the Chairman and Head of Surgery at Rahman & Rahman Dental Group. He was inducted into the International Team of Implantology in 2017 and has since then led the ITI in establishing evidence based clinical research throughout the Subcontinent of India, Pakistan as well as the United Arab Emirates. He is the pioneer in ceramic implant placement as well as introducing the 100% digital workflow for the everyday dentist. Rahman & Rahman dental group has practices in The United States, Dubai, and Pakistan.

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