

# TOOTH TRANSFORMER



## AUTOLOGOUS TOOTH GRAFT: A HISTOLOGICAL COMPARISON BETWEEN DENTIN MIXED WITH XENOGRRAFT AND DENTIN ALONE

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### ABSTRACT

**AIM:** the aim of this study is to compare the histological results after socket preservation between dentin mixed with xenograft and dentin alone in tooth graft procedure.

**SETTINGS AND DESIGN:** Six patients were included in this prospective case series study and treated in three clinical centers using standardized clinical procedures.

**MATERIALS AND METHODS:** This clinical trial enrolled patients with three walls post-extractive defects requiring the restoration of bone dimension and shape in mandibular zone. The patients were divided in two groups: extracted teeth alone (first group) and extracted teeth mixed with equal quantity of xenograft (second group). The extracted tooth was cleaned and processed by a recently introduced automated device, that allows fragmentation and partial demineralization of the tooth matrix and used as graft material. The graft obtained in this way, was inserted at the time of the extraction. A covering membrane was used to protect the graft. Implants were placed after 4 months of healing. Bone biopsies of the all grafted sites were taken at the time of implant surgery, for histological analysis.

**STATISTICAL ANALYSIS:** Descriptive statistics was used to synthesize the results, using mean values and standard deviations.

**RESULTS:** 6 patients (5 women, mean age at surgery 50,3 ±12,5 years) were treated and after 4 months of healing both groups, grafts height appeared stable. No signs of infection were present. Bone biopsy were taken in all grafted sites (3 with group one and 3 with group two). The histologic analysis revealed no inflammatory or infective reaction against both groups. The histomorphometry results between the two groups are different. The first group show an amount of new bone greater than the second group (48,29% and minor quantity of residual graft: 83,59%).

**CONCLUSION:** the dentin alone show a larger amount of new bone.

## ORAL IMPLANTOLOGY



	FIRST GROUP (TT)	SECOND GROUP (TT+XENOGRRAFT)	DIFFERENCE
TOTAL VOLUME	57,22±8,71	45,81±16,51%	19,95%
RESIDUAL GRAFT	18,95±10,99 (% of resorption 81,05%)	34,875±9,21 (TT 12,99%±6,26 + xenograft 21,88±3,22)	83,59%
VITAL NEW BONE	38,22±8,71	20,63±5,82	85,29%.