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Comparative ultrasound assessment of keratinized gingiva thickness around implants after the augmentation treatment in esthetic zone- preliminary results

SUMMARY:

Implantation in the aesthetic zone is demanding procedure, both in terms of functional and aesthetic. In order to achieve long-term stable therapeutic effect, keratinized gingiva of implants should be thicker than the one of the natural teeth.

OBJECTIVES:

Comparative, ultrasound evaluation of the thickness of keratinized gingiva around implants before and 3 months after augmentation gingiva by means of connective tissue graft and collagen matrix Mucograft® (Geistlich®).

MATERIAL AND METHODS:

43 patients, including 27 women with single or double missing teeth. Tapered implants were inserted- 49 Conelog® (Camlog®). In 43 cases- single and in 6 cases a double missing teeth were supplemented.

Patients were divided into 3 groups according to the implemented method of augmentation:

- I group without augmentation gingiva
- II group of thickened gingiva 3 months before implantation
- III group of thickened gingiva 3 months after implantation

Groups II and III were divided into two subgroups according to used material:

- a) collagen matrix Mucograft® b) connective tissue graft

Patients underwent:

1. clinical examination before and 3 months after augmentation gingiva and
2. ultrasonography evaluating the thickness of keratinized gingiva at 3 points in place of a missing tooth using a device Pirop® (ECHOSON®, Poland):



1. in the middle of the line connecting CEJ's of the adjacent teeth



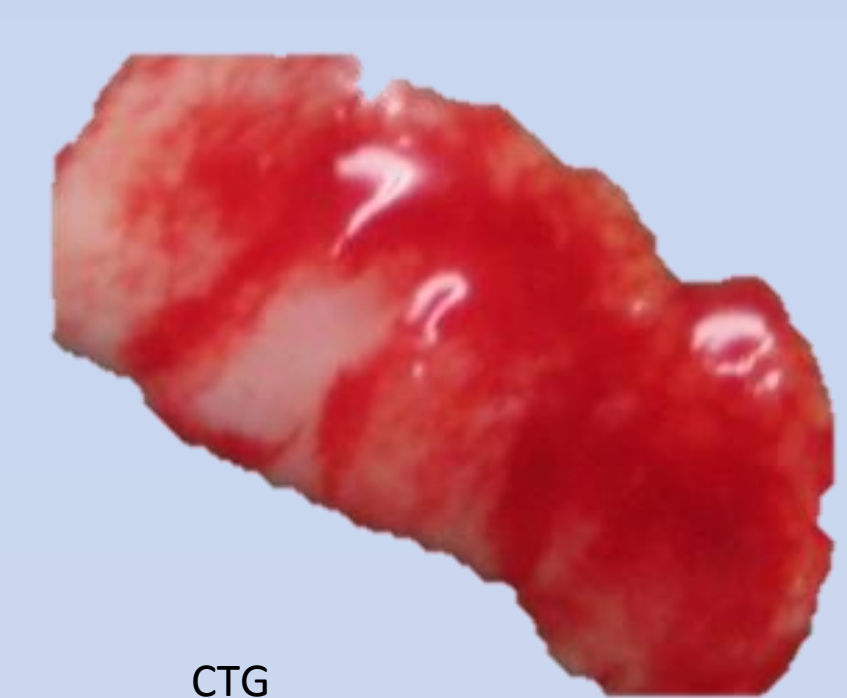
2. on the MGJ



3. on the alveolar ridge



Mucograft®



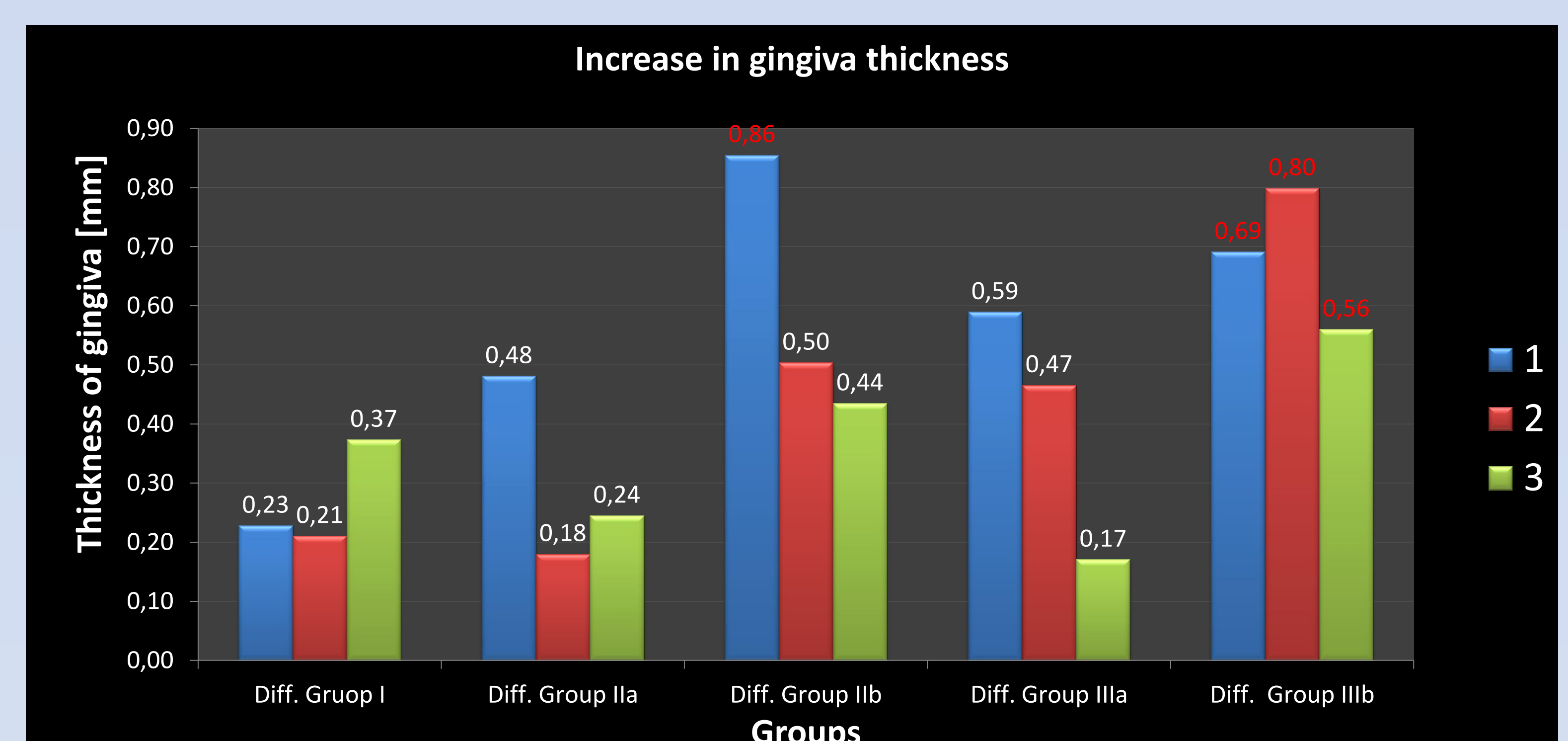
CTG

RESULTS:

In comparison of all groups the highest value of increasing thickness of gingiva in 3 measurement points in IIIb group (with connective tissue graft 3-month after implantation) was recorded (the differences were at a point 1-0.69, 2-0.80, 3- 0.56).

The greatest thickness of gingiva in 1 measurement point was observed in IIb (0.86).

In Mucografts group the higher increase was recorded in IIIa group.



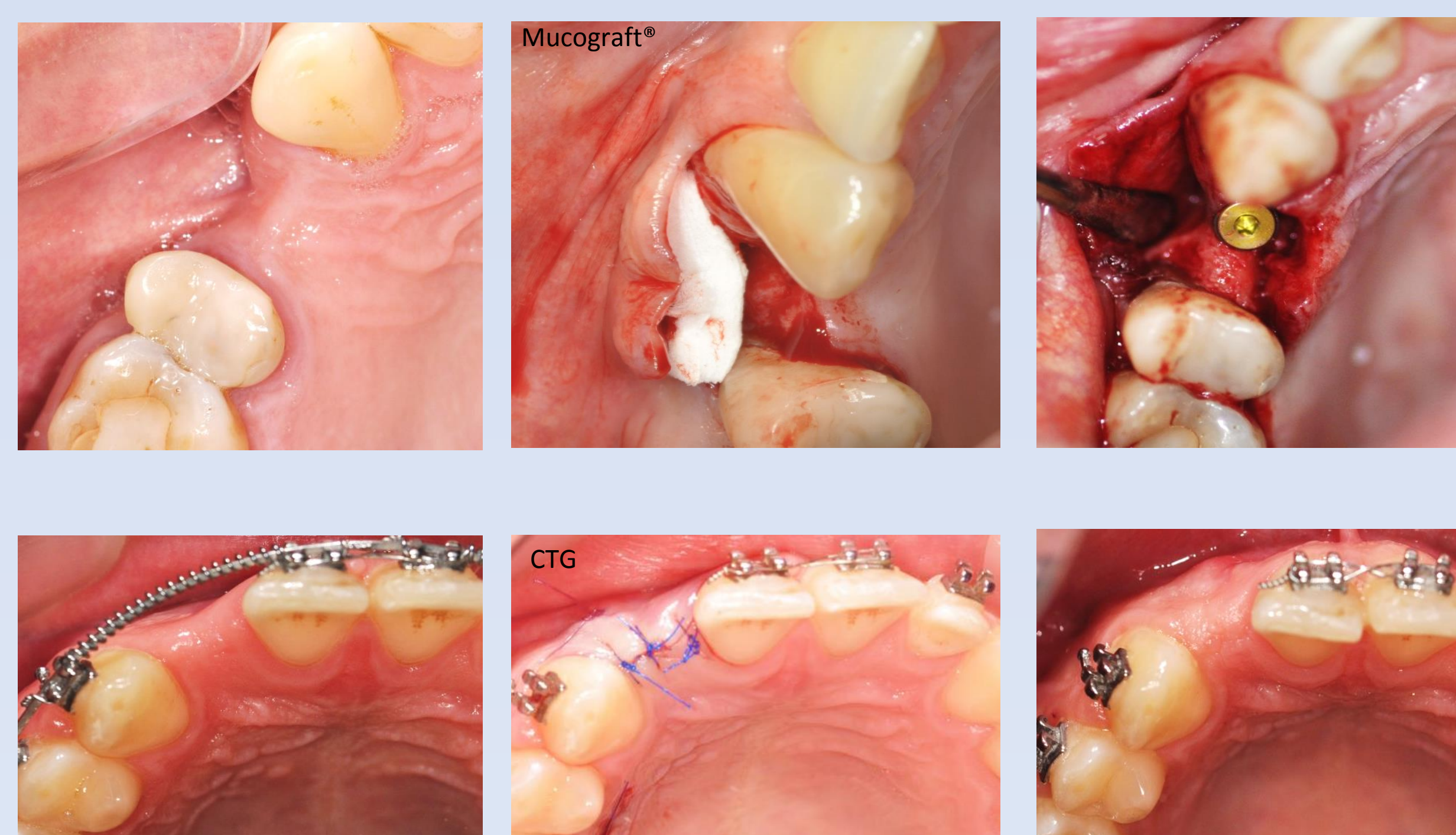
Group I

Control group without soft tissue augmentation



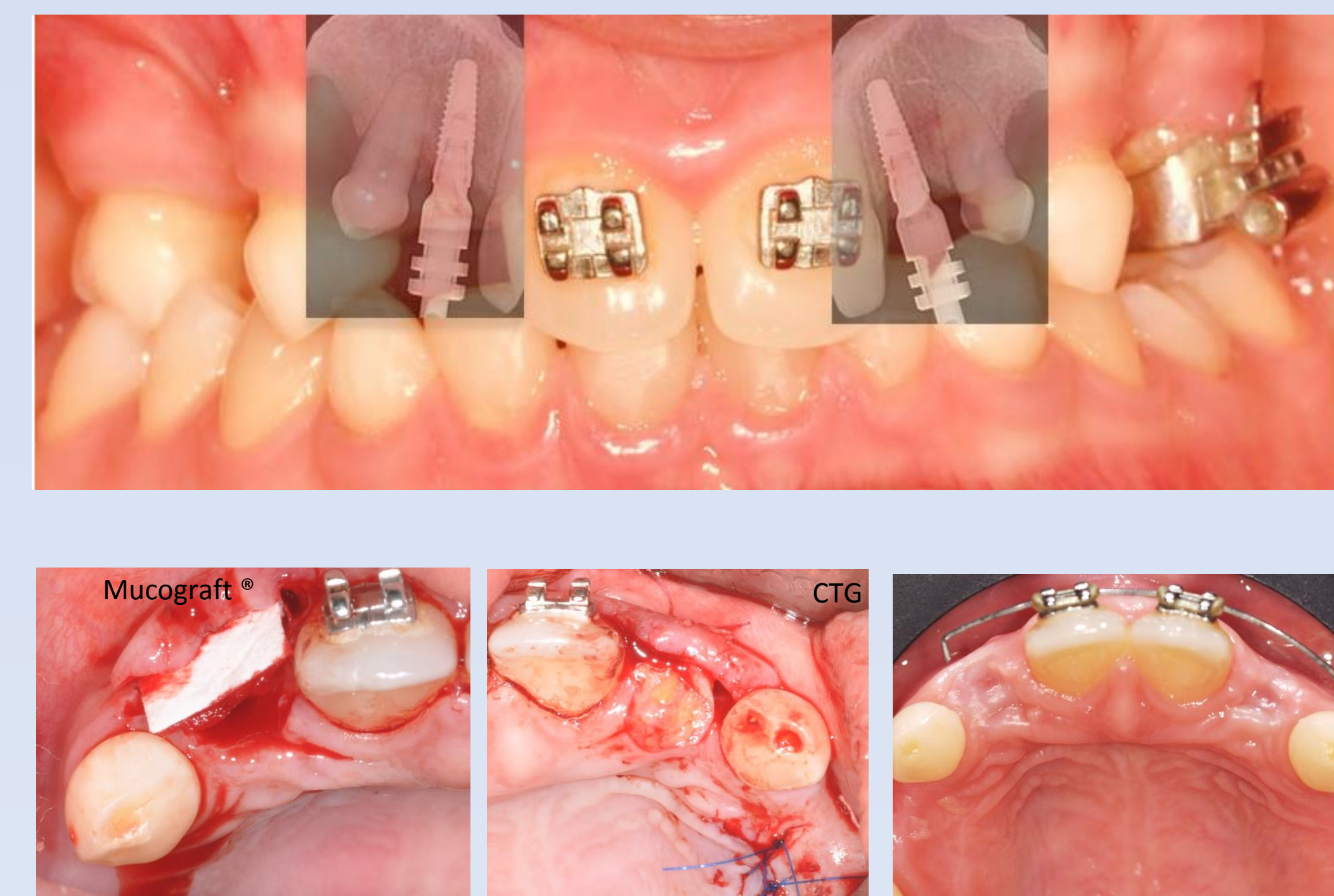
Group II

Soft tissue augmentation 3– month before implantation



Group III

Soft tissue augmentation 3– month after implantation



CONCLUSIONS:

Both CTG and Mucograft® has the effect of increasing gingiva thickness, but higher values have been recorded after augmentation surgery with CTG. In thin biotype when keratinized gingiva is thinner than 2 mm, implant surgery of keratinized gingiva is required. The guidelines for working with matix Mucograft® must be observed and obeyed.