

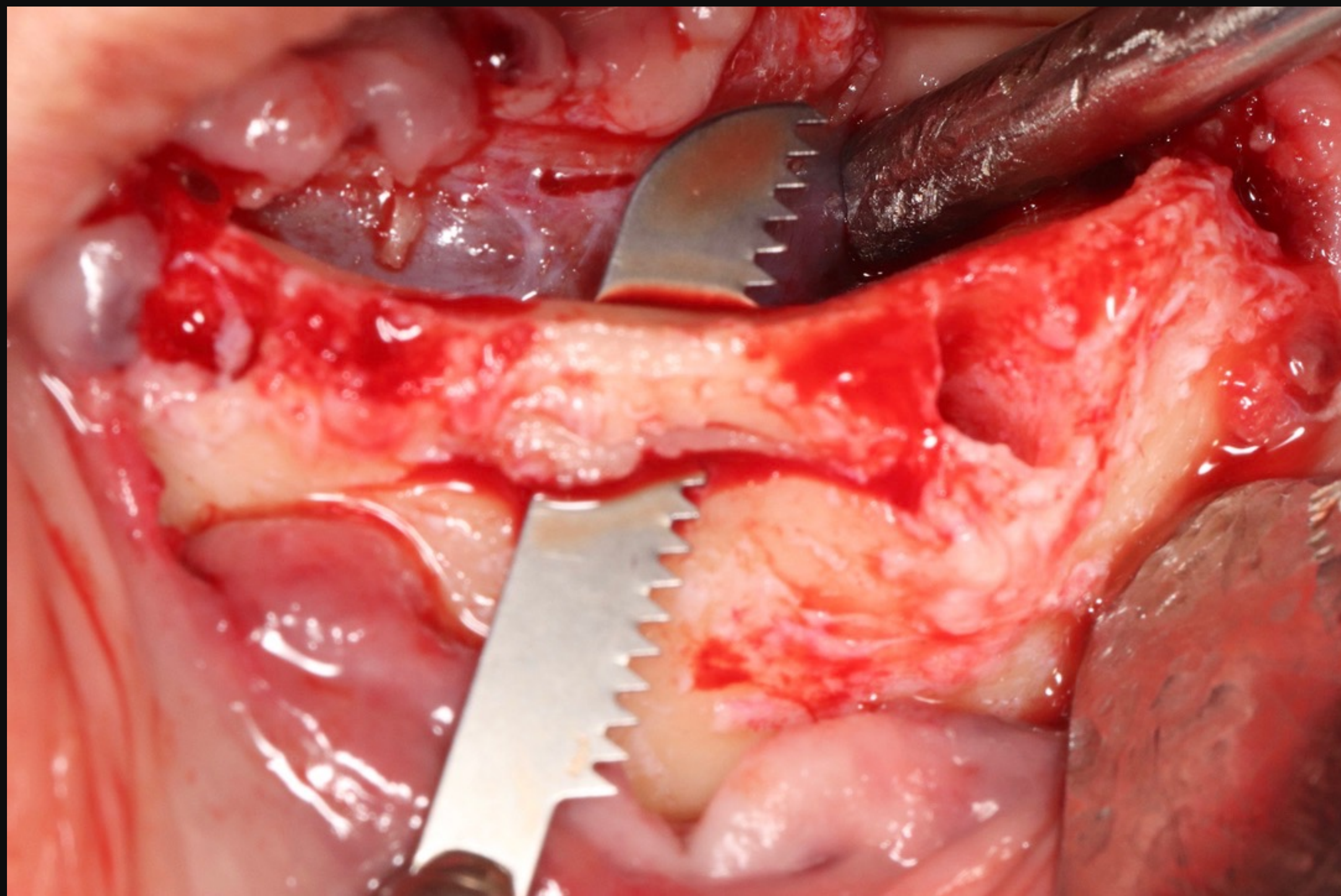
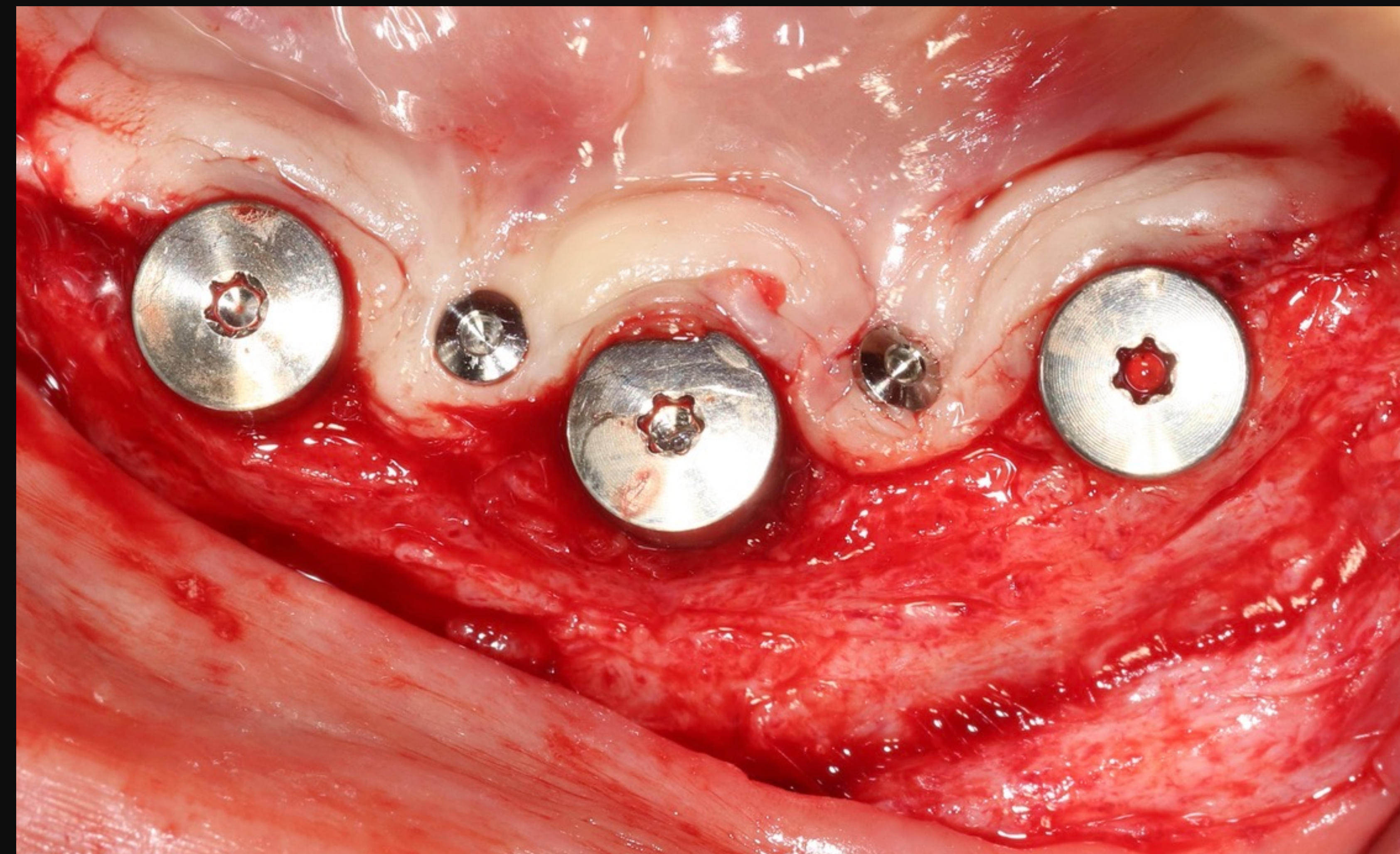
Minimally Invasive Titanium Tacks-assisted Soft Tissue Stabilization (TASS) Technique, for Lingual Flap Fixation and Vestibulo-Lingual Sulcoplasty.

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INTRODUCTION

In general, most countries have a rising life expectancy and an aging population. This may lead to a need for more complicated oral rehabilitation based on dental implants. A critical criterion in dental implant treatment planning is the vestibular depth, either in the buccal or in the lingual side of the edentulous ridge. The lingual sulcus reconstruction might be considered a more complicated surgery due to the presence of lingual anatomic structures. A severe atrophic ridge of the mandible might be considered as one of the most challenging clinical situations which may lead to inadequate lingual sulcus depth. To increase the depth of the lingual sulcus, several methods have been proposed, however, the present case describes a novel surgical approach using bone tacks to answer the problem.



METHODS

At the second stage of implant surgery, an inadequacy of keratinized tissue was observed in both the buccal and lingual regions. To address this issue, a flap was prepared to predominantly position the keratinized tissue on the lingual side. The accordion technique was employed for soft tissue management on the buccal side, involving a free gingival graft harvested from the palatal region. For lingual side management, all existing keratinized tissue was fixed apically through a sharp dissection and two minimally invasive bone Tacks.



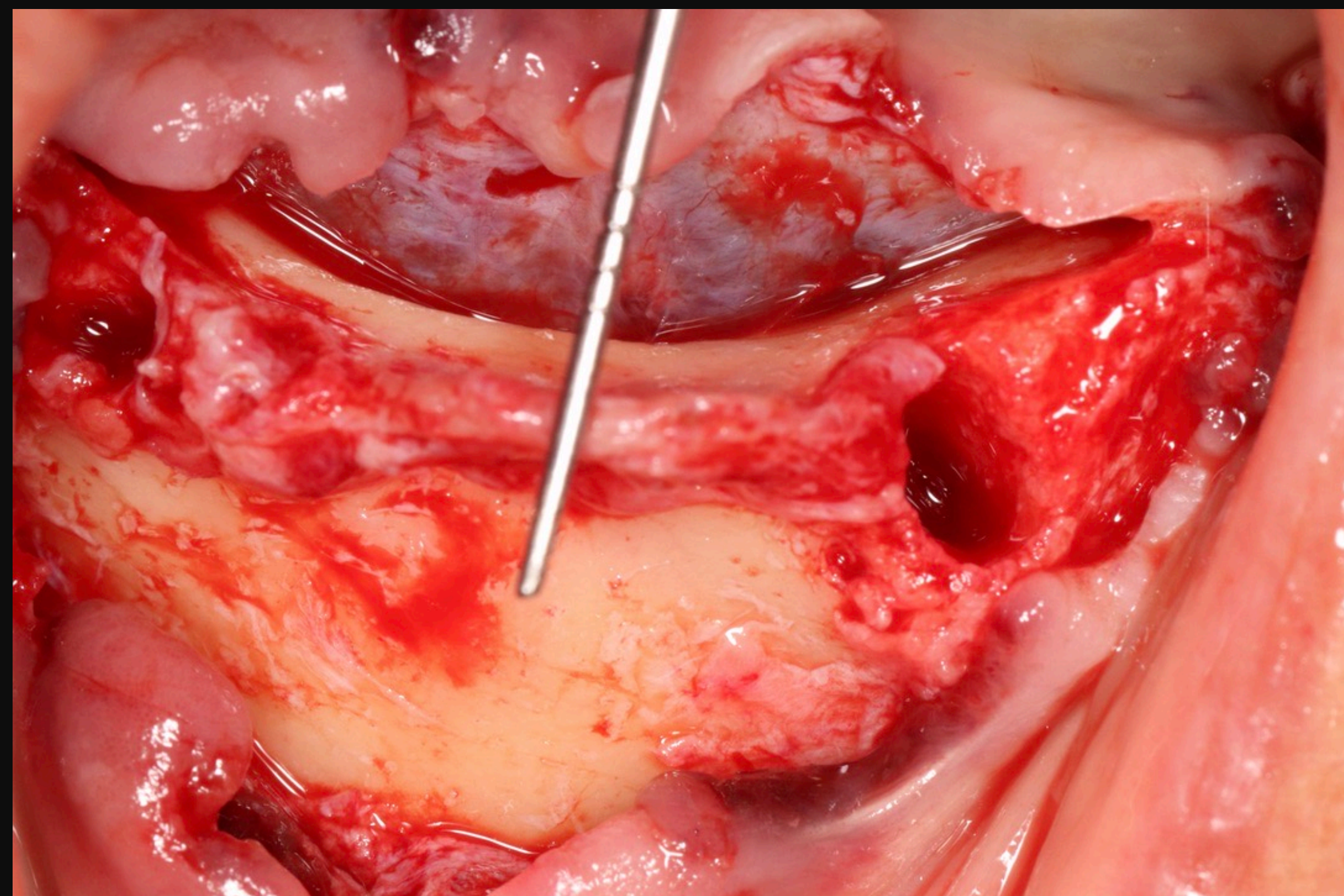
Baseline patient



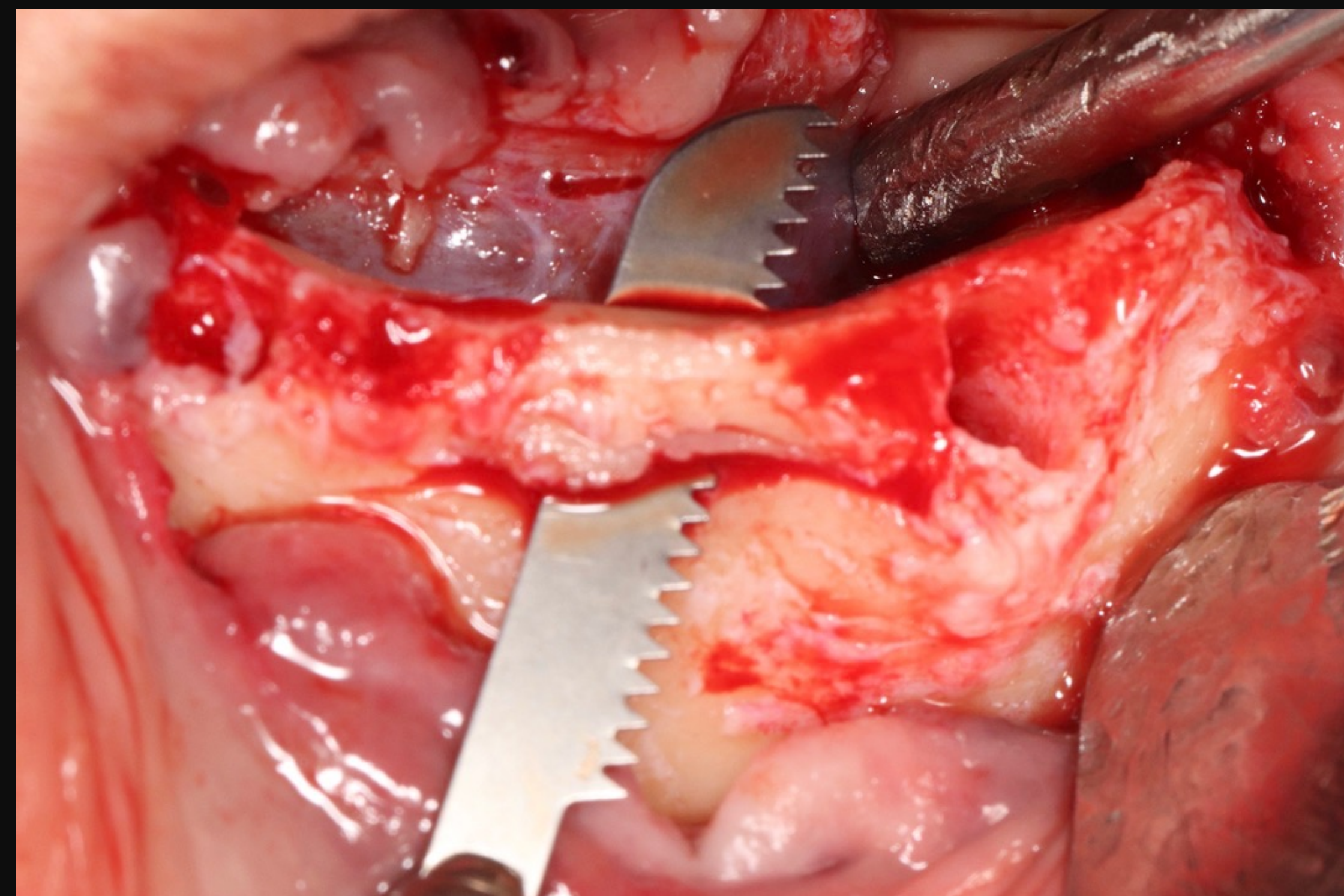
Cone-beam CT scan showed severe alveolar bone resorption in the posterior area



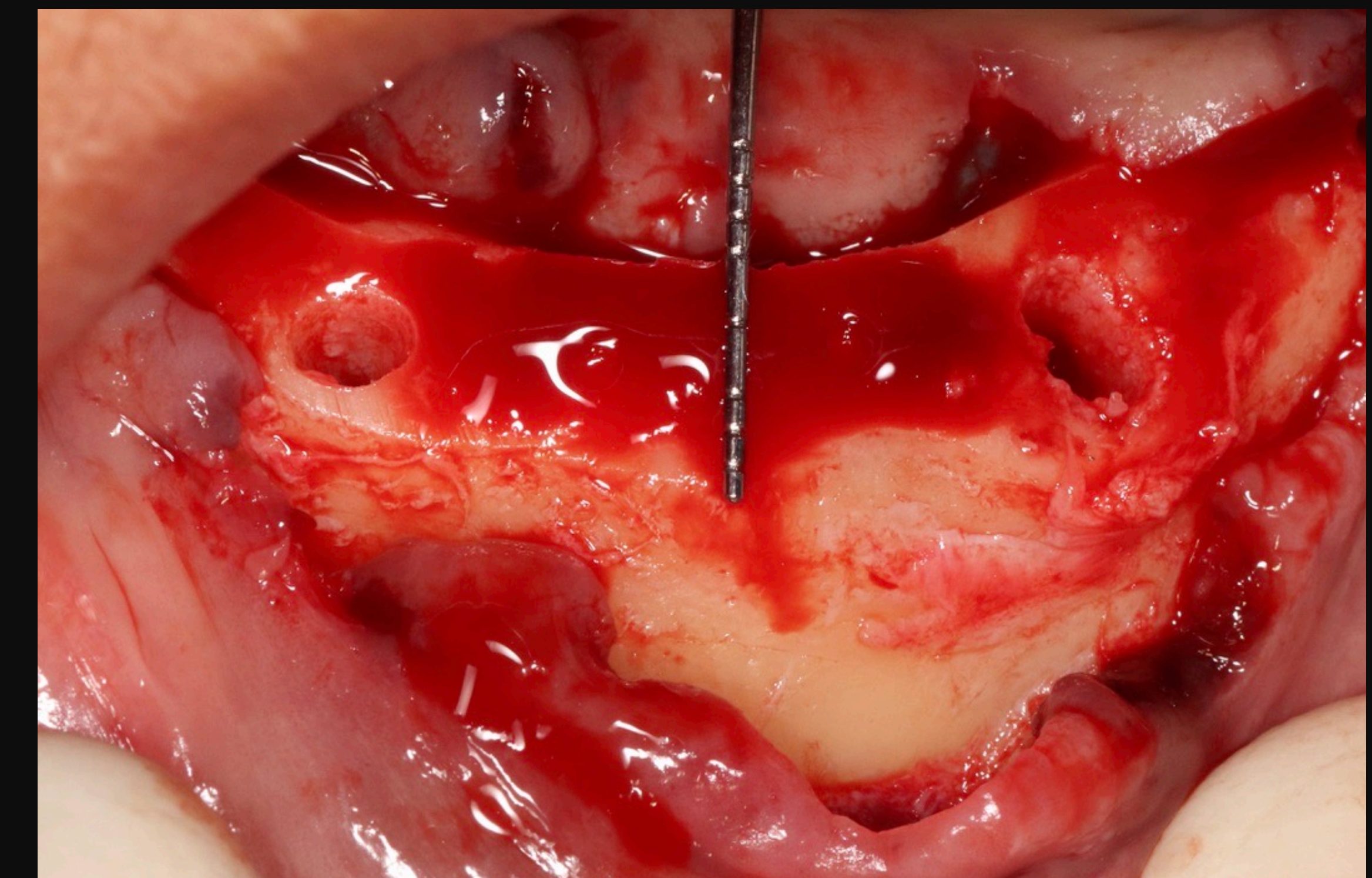
extracted teeth

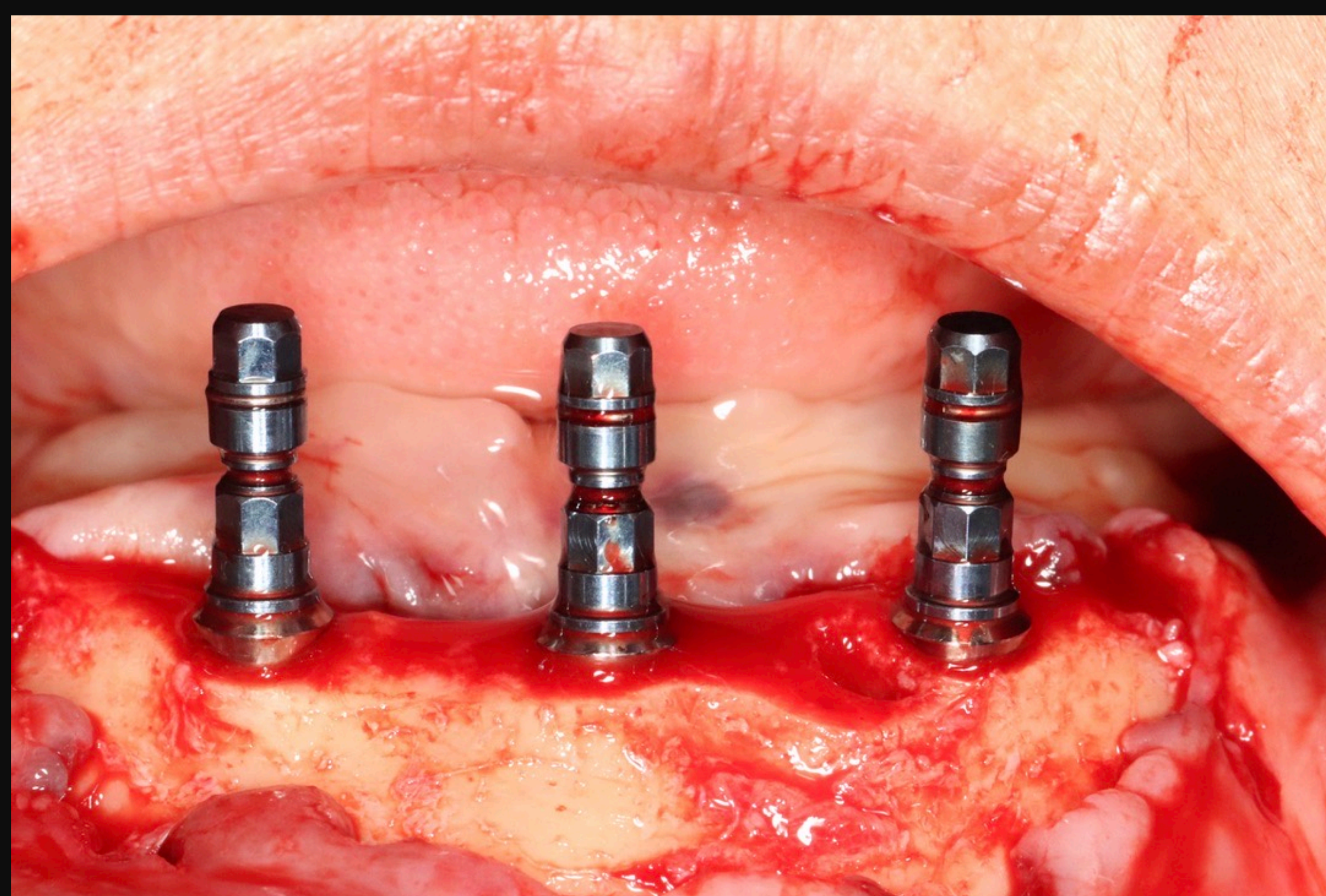
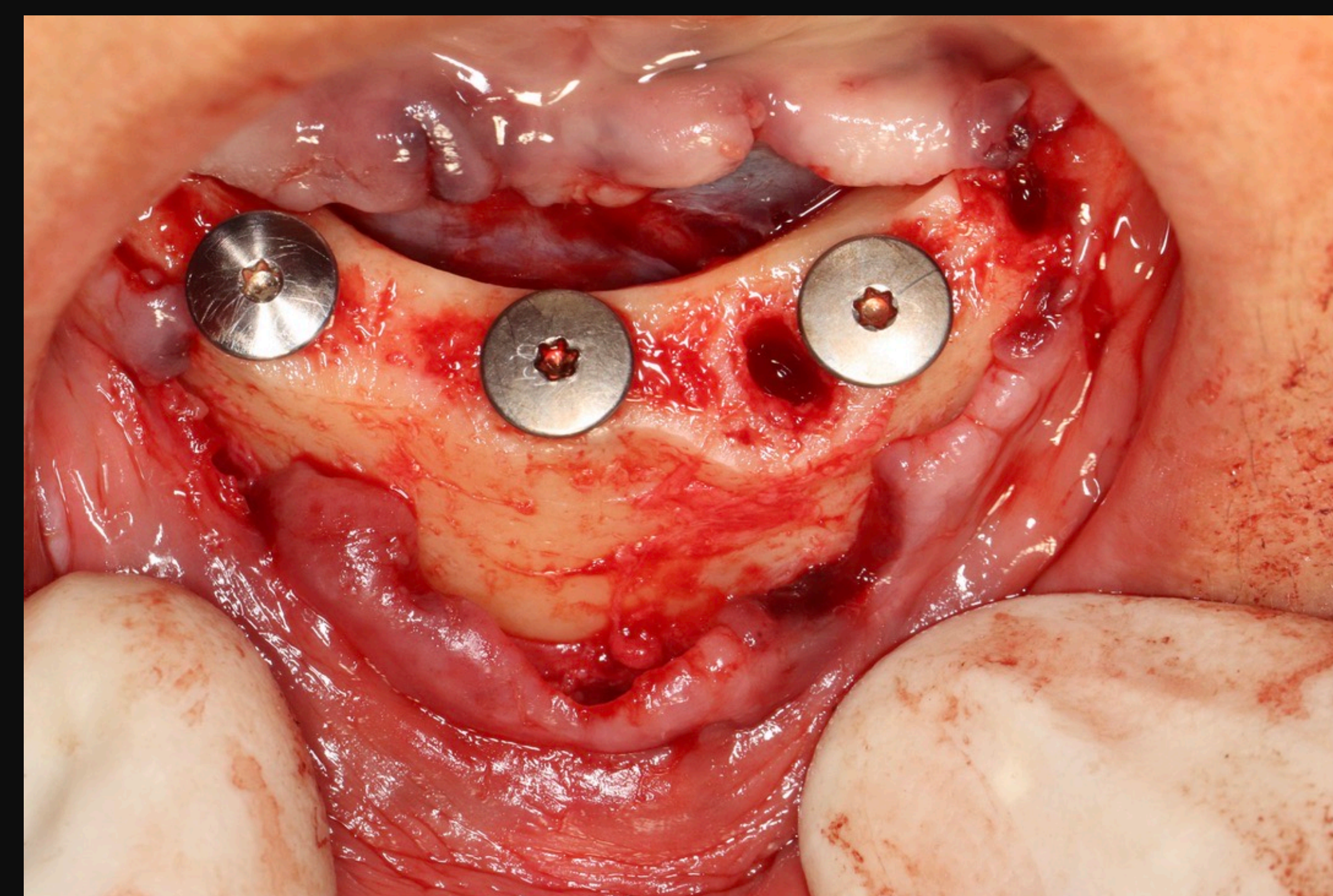
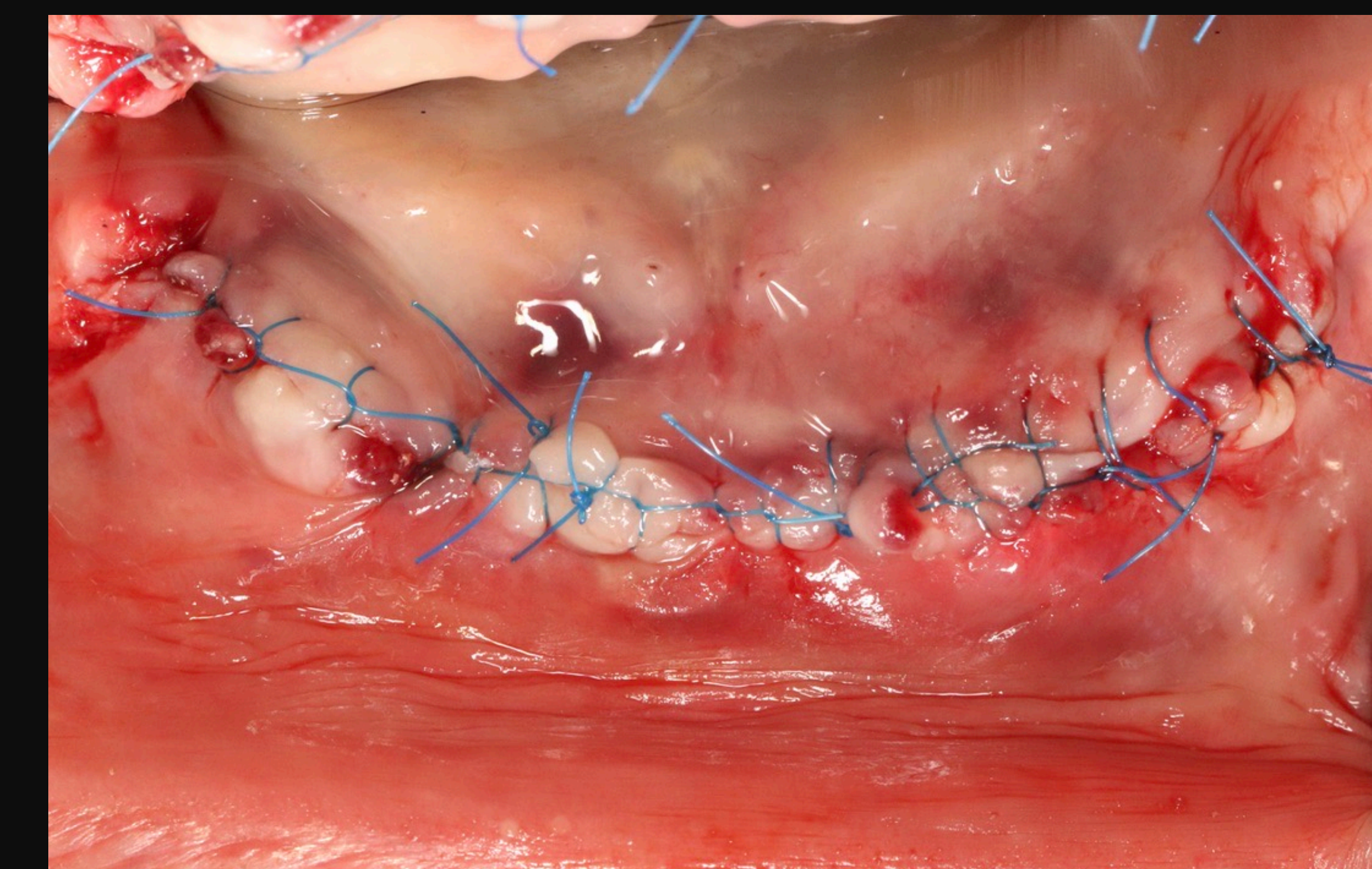


ridge reduction was conducted using a saw

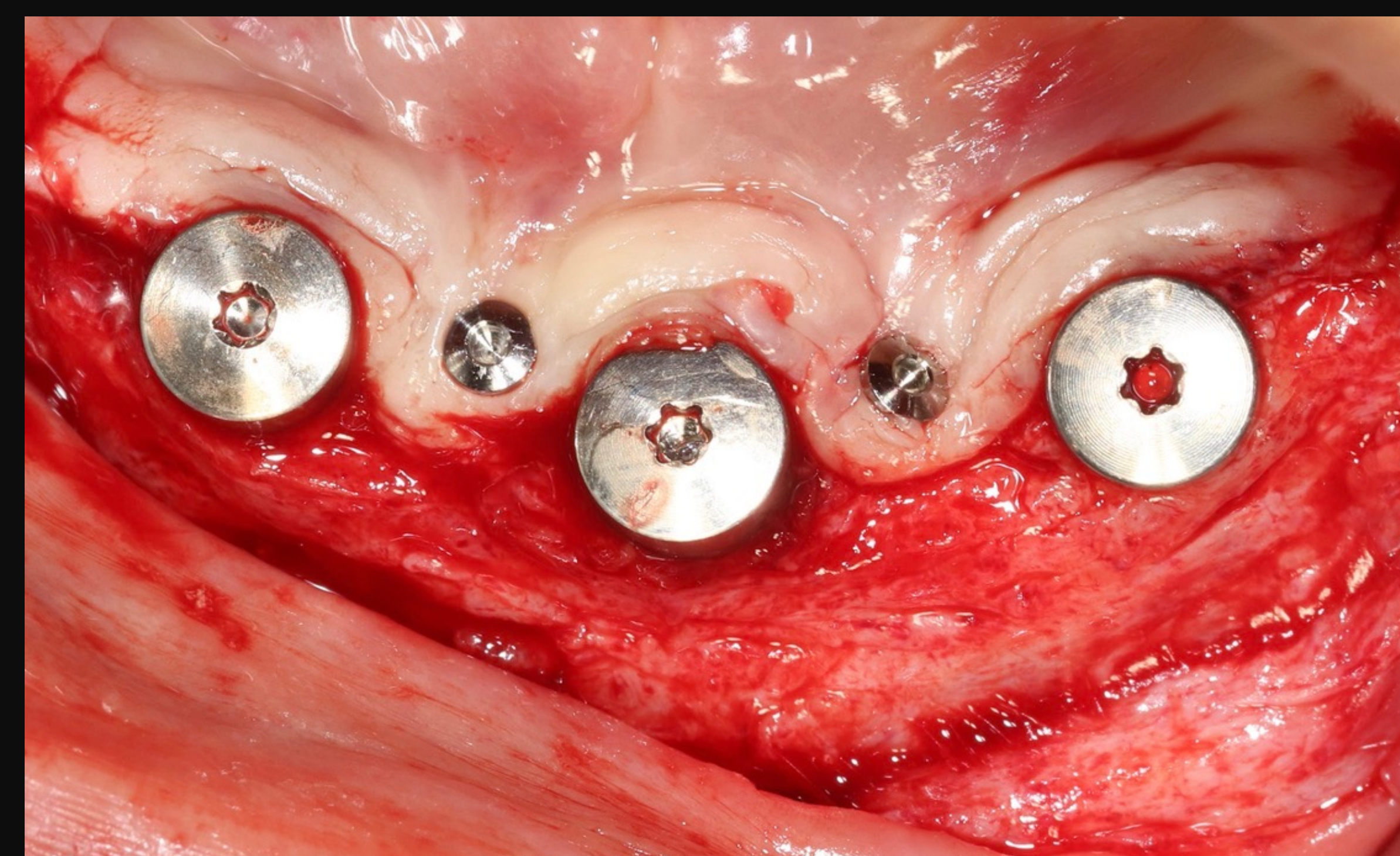
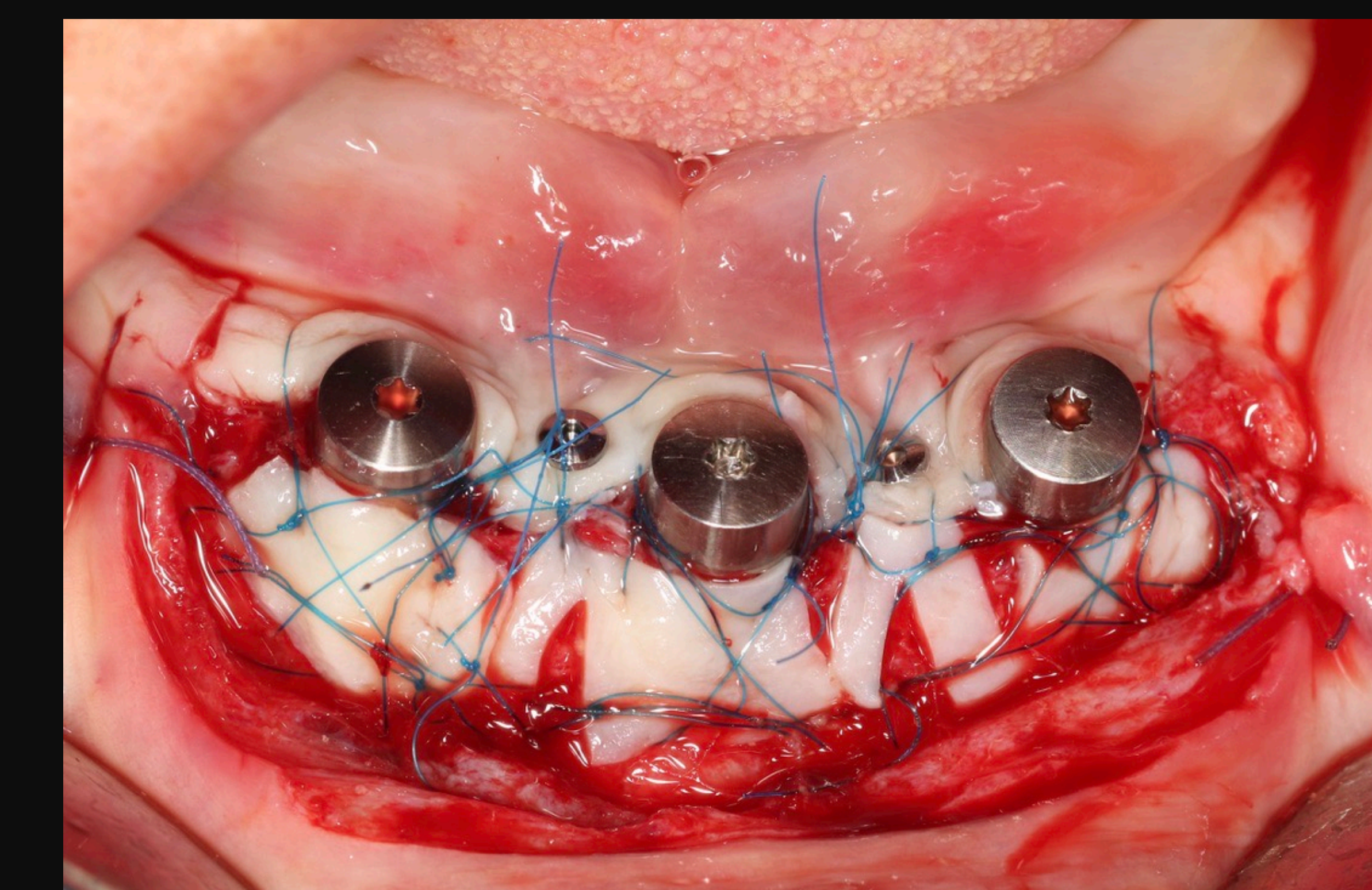


ridge reduction was conducted using a saw



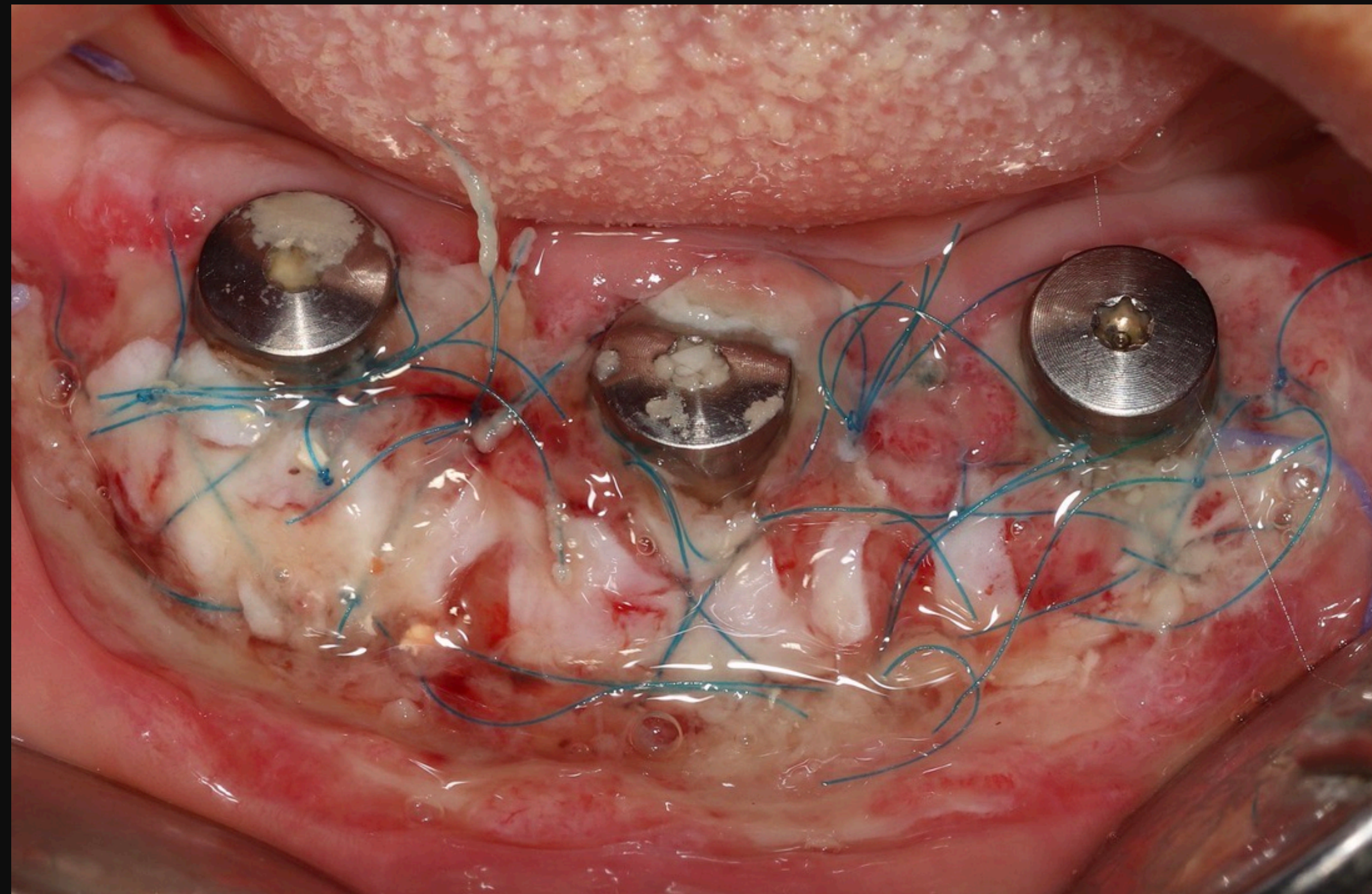


. Three tissue level implants were correctly inserted



Two minimally invasive bone titanium tacks, measuring 1.5 mm in diameter and 3 mm in length were used to secure the partial-thickness flap that comprised all of the keratinized tissue already present for soft tissue management on the lingual side.

A free gingival graft taken from the palatal area was used in the accordion approach for soft tissue management on the buccal side.



The sutures were removed after 21 days and titanium tacks were released 14 days after surgery.



TASS technique offers stable flap fixation, surgical convenience, efficiency, and the preservation of keratinized gingiva around the implants.

RESULTS

A 10-month follow-up after vestibulo-lingual sulcoplasty demonstrated a significant improvement in both lingual (4 mm) and buccal (6 mm) vestibular depth when compared to the baseline measurements.

CONCLUSION

The Tack-assisted soft tissue stabilization (TASS) technique has demonstrated the potential to surpass conventional suturing methods in lingual flap fixation, owing to its minimally invasive approach. This technique offers stable flap fixation, surgical convenience, efficiency, and preservation of keratinized gingiva around the implants.

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