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L-PRF VS. XENOGENIC MATERIAL (90% BONE GRANULES; 10% PORCINE COLLAGEN) FOR ALVEOLAR SOCKET PRESERVATION. HISTOLOGICAL REPORT OF A CONTROLLED CLINICAL TRIAL.

Cáceres F^{*,**}, Nehme M^{*}, Imbarack M^{*}, Riquelme J^{*}, Vega V^{*}, González W^{*,**}, Acuña J^{***}, Sanz A^{*}

Clinical Trials Protocol ID CPI-ODO:16, ClinicalTrials.gov. ID NCT05572242

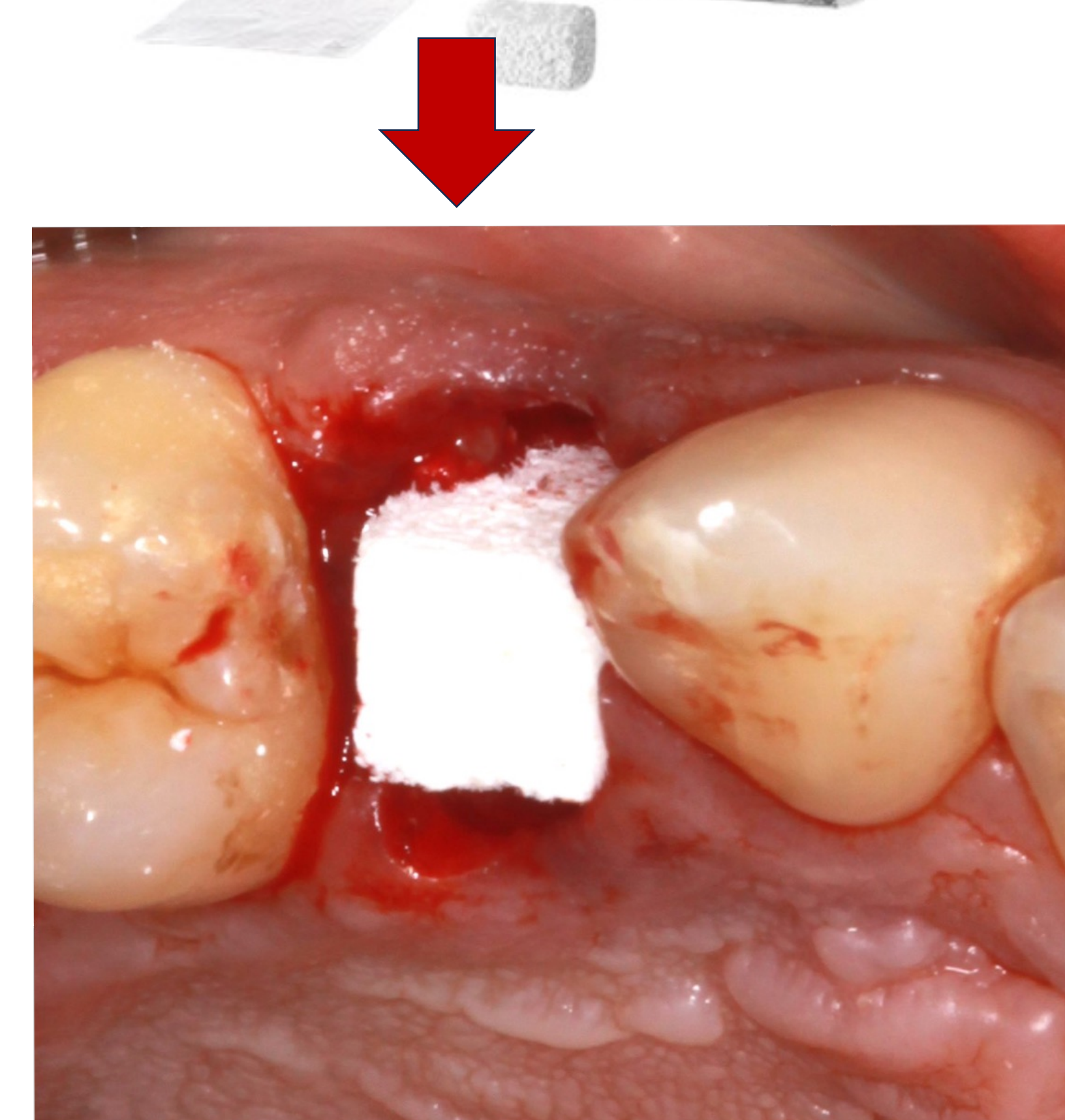
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INTRODUCTION

There is a consensus that alveolar socket bone volume preservation techniques are necessary for esthetically results in delayed implants. L-PRF (leucocyte platelet-rich fibrin) has shown inconsistent results as preservation material, mainly due to its wrong manipulation. This report aims to show histological evidence of the quantity and quality of newly formed bone with L-PRF vs. xenogenic bone material.



METHODS

This partial report is part of Clinical Trial N° NCT05572242. Patients who need premolar extraction and socket preservation before implant were included. The experimental group (EG) was treated with L-PRF non-flattened plugs. Control group (CG) with Bio-Oss® Collagen Combi Kit. After 4 months of socket healing, bone core samples were taken during implant insertion. H&E slides were studied under a microscope.



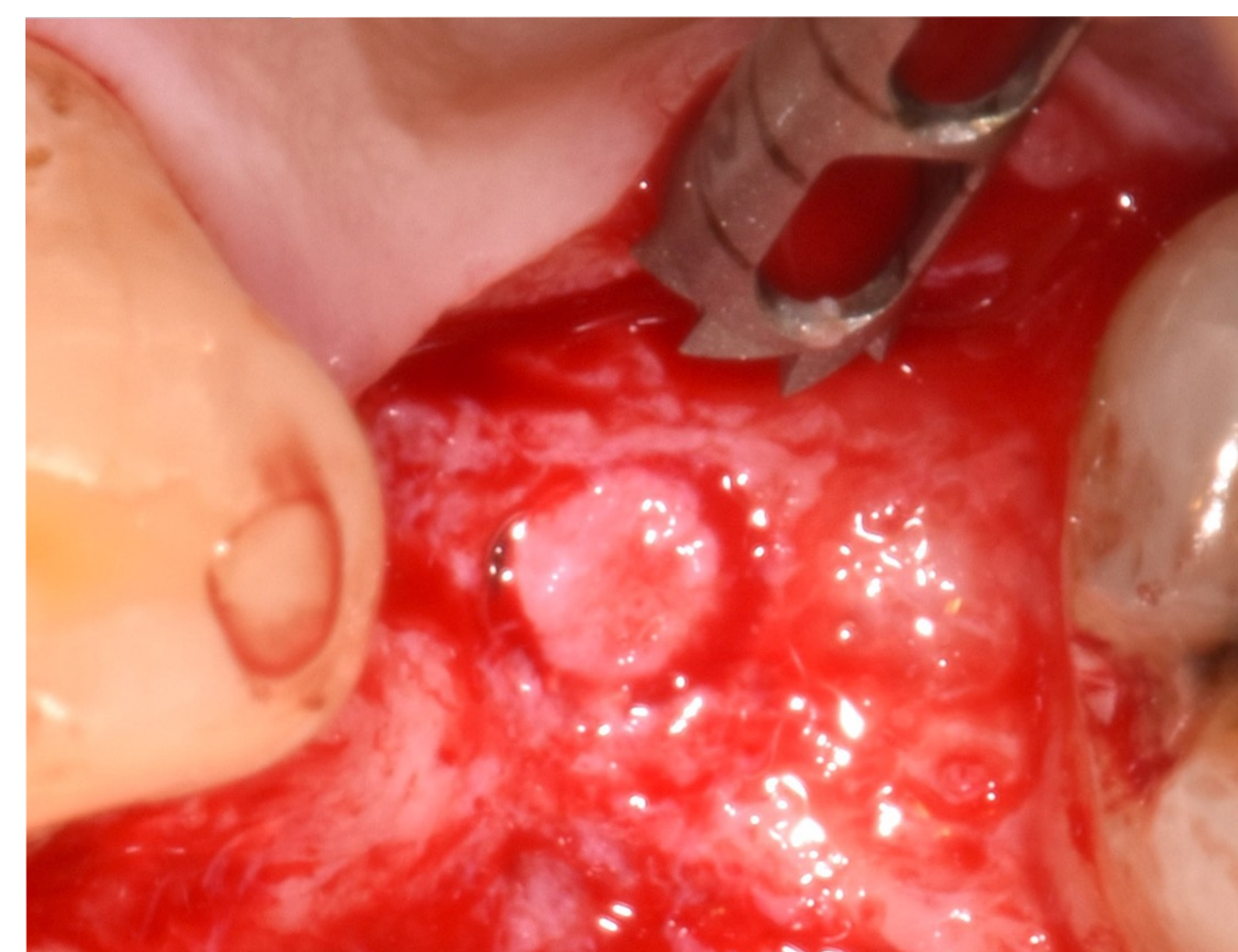
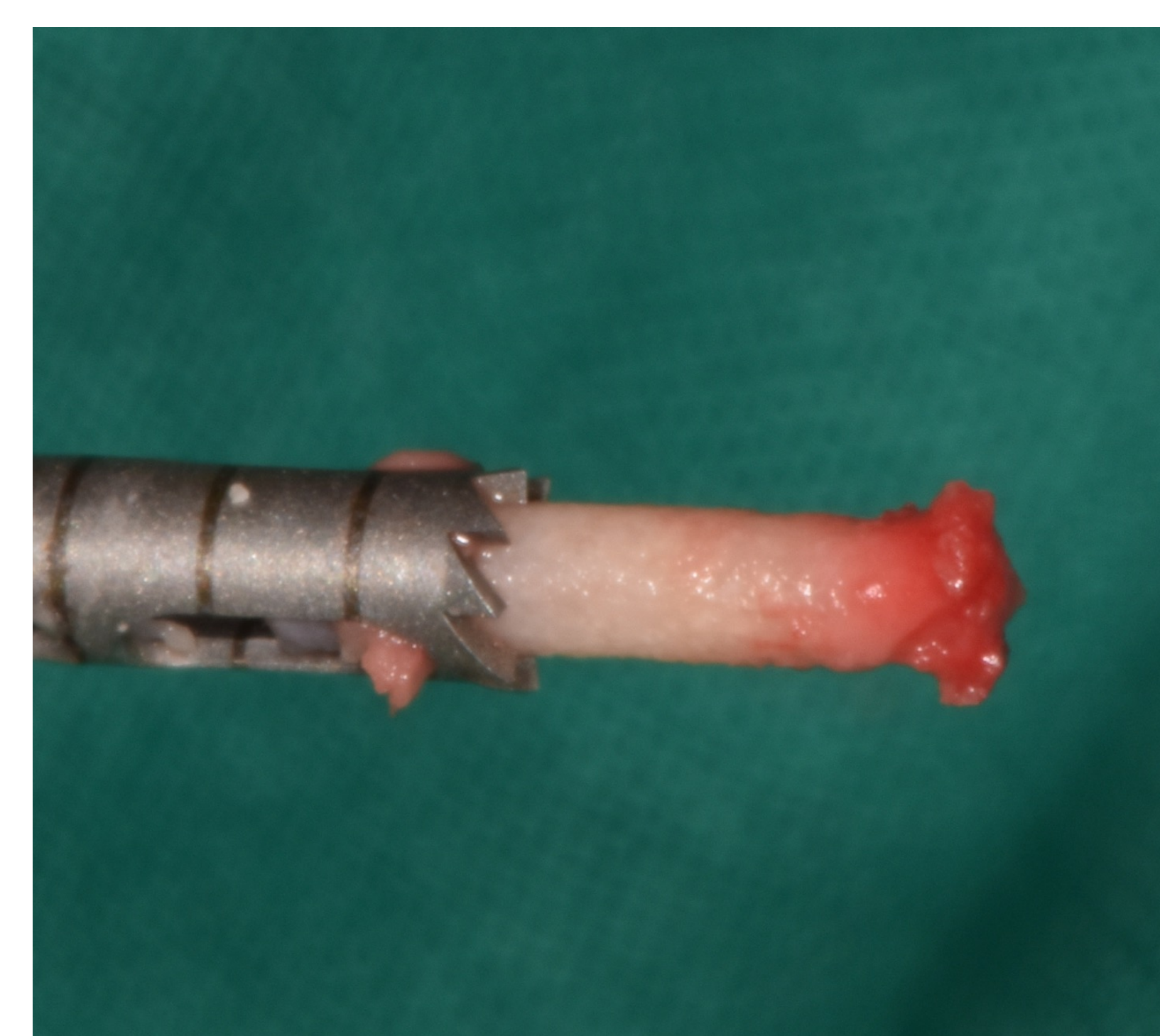
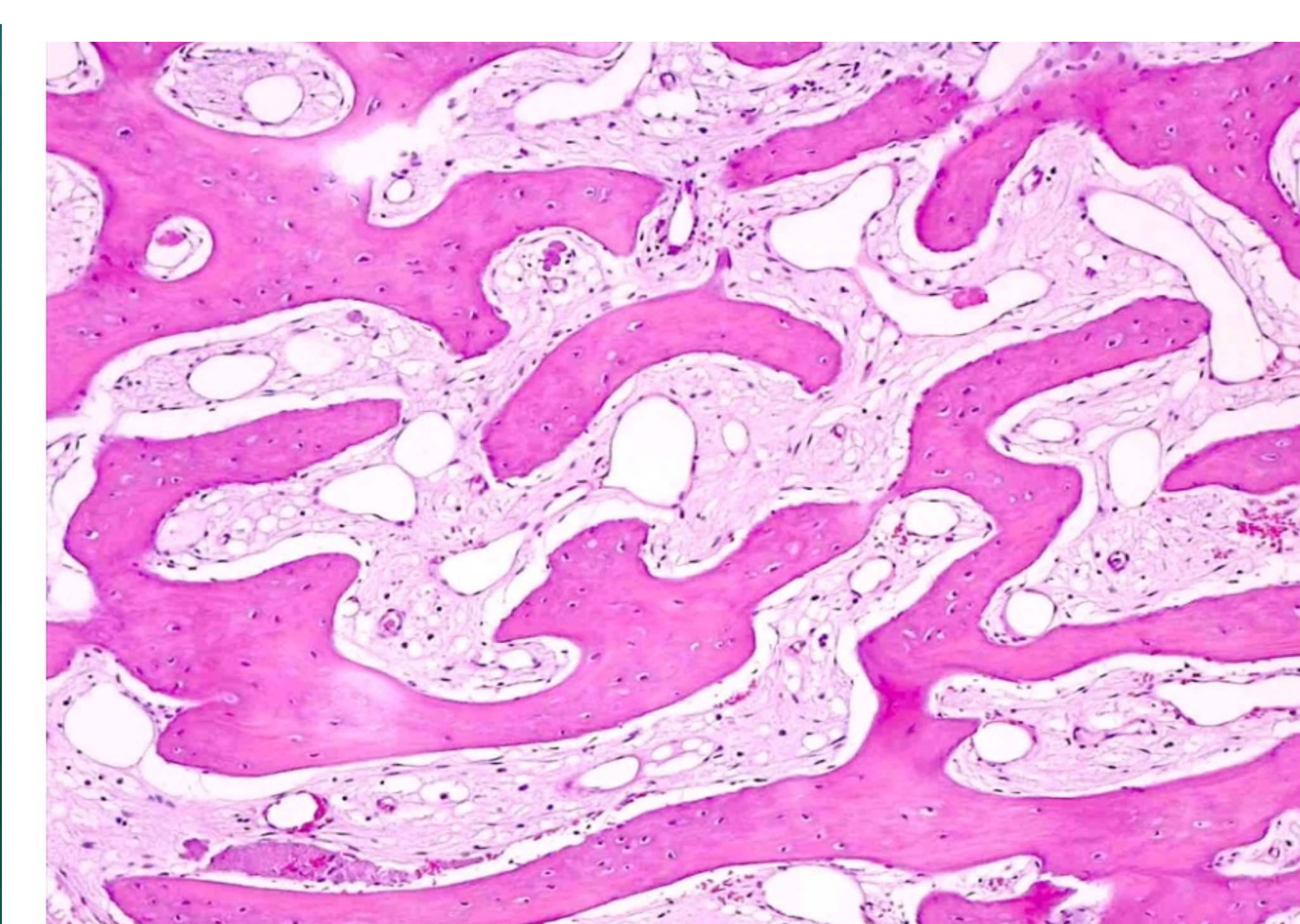
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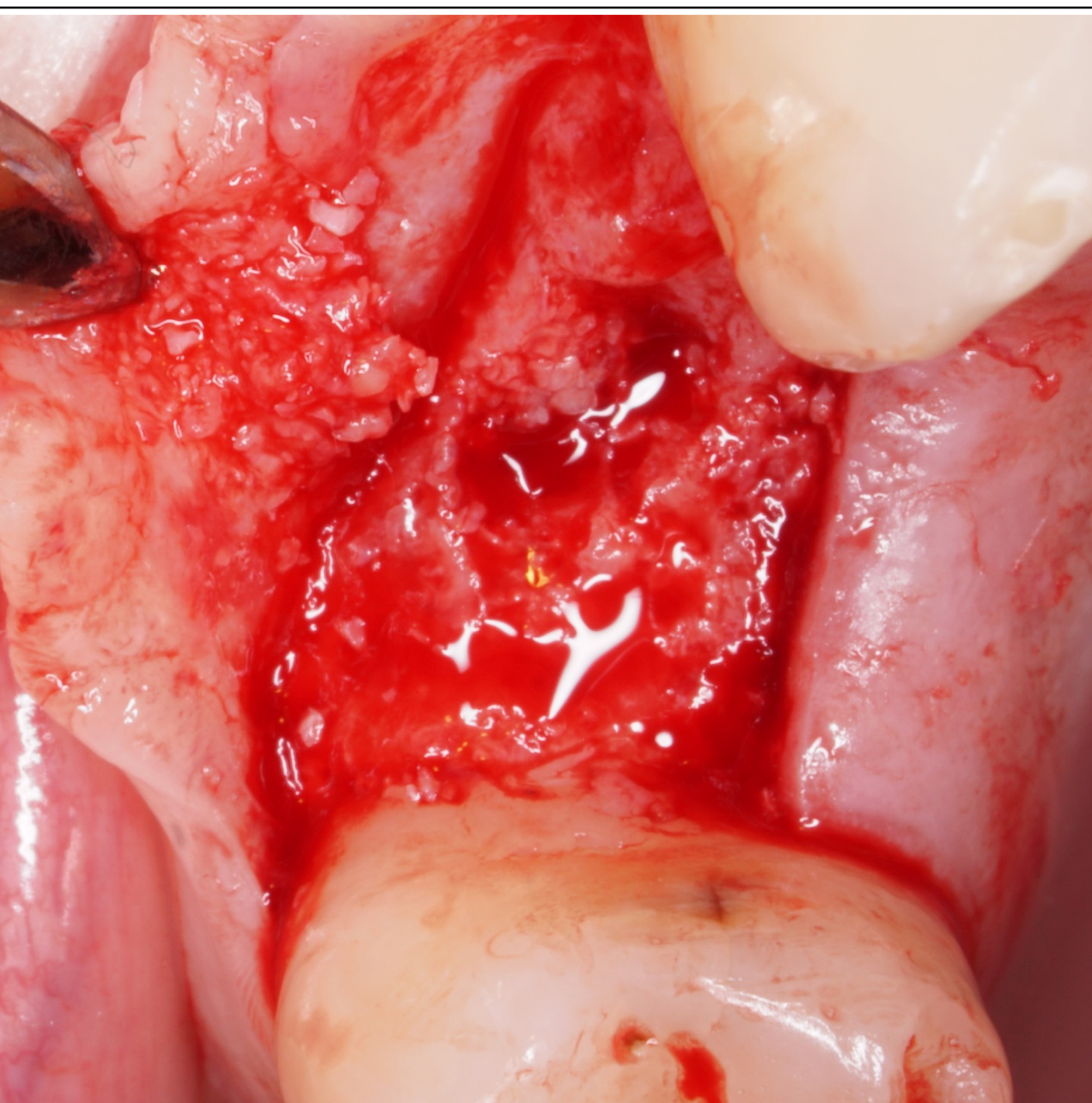
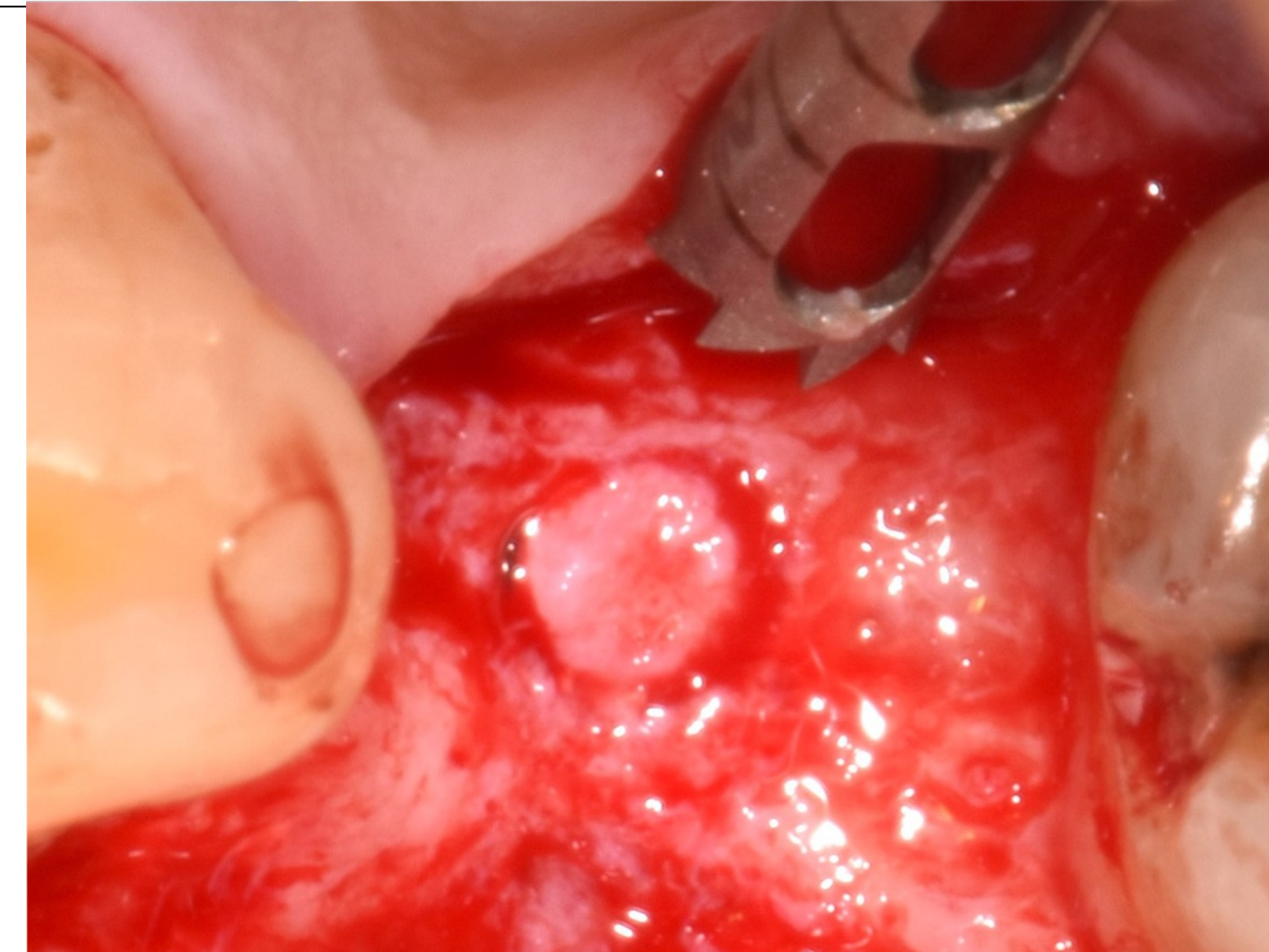
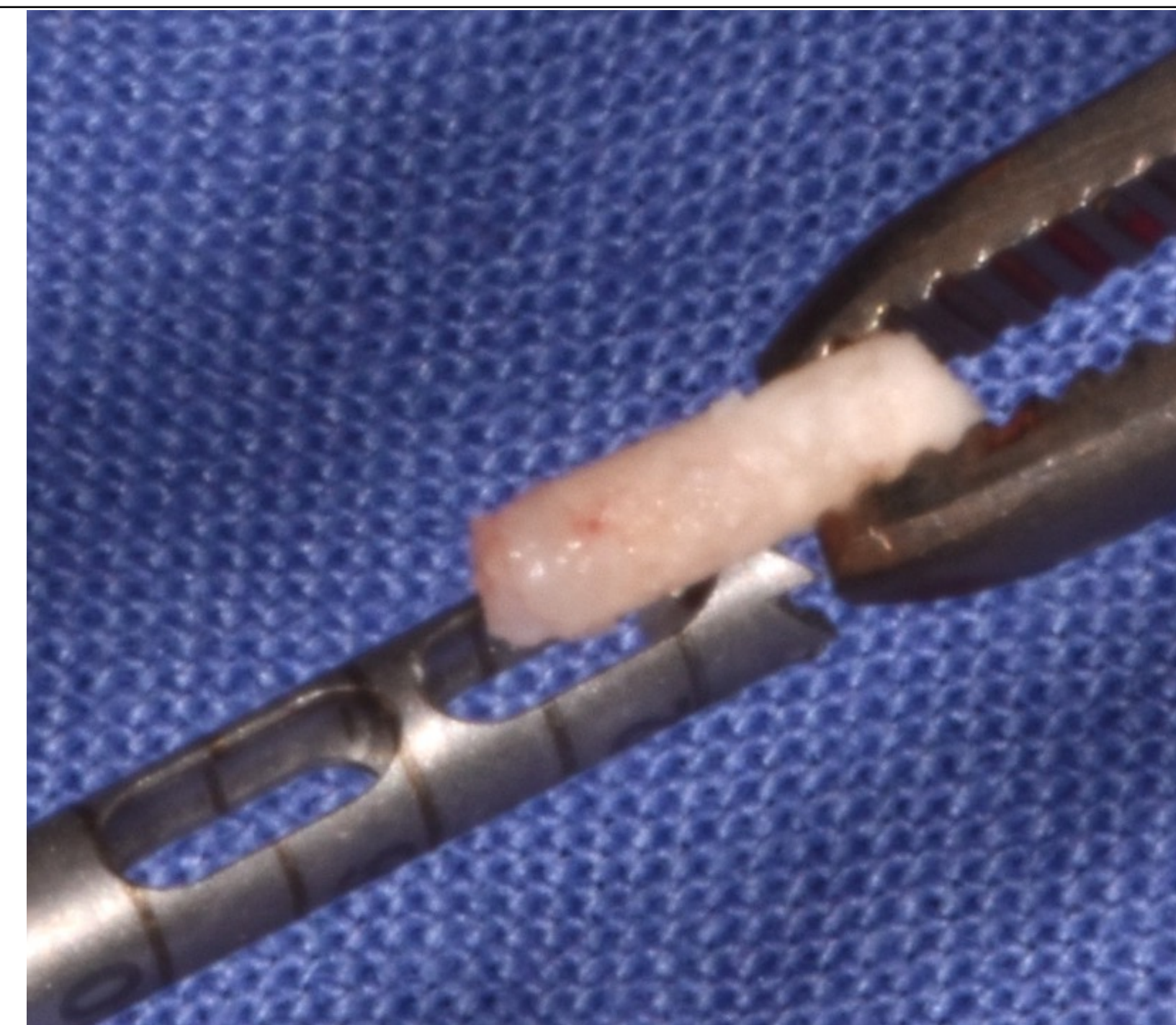
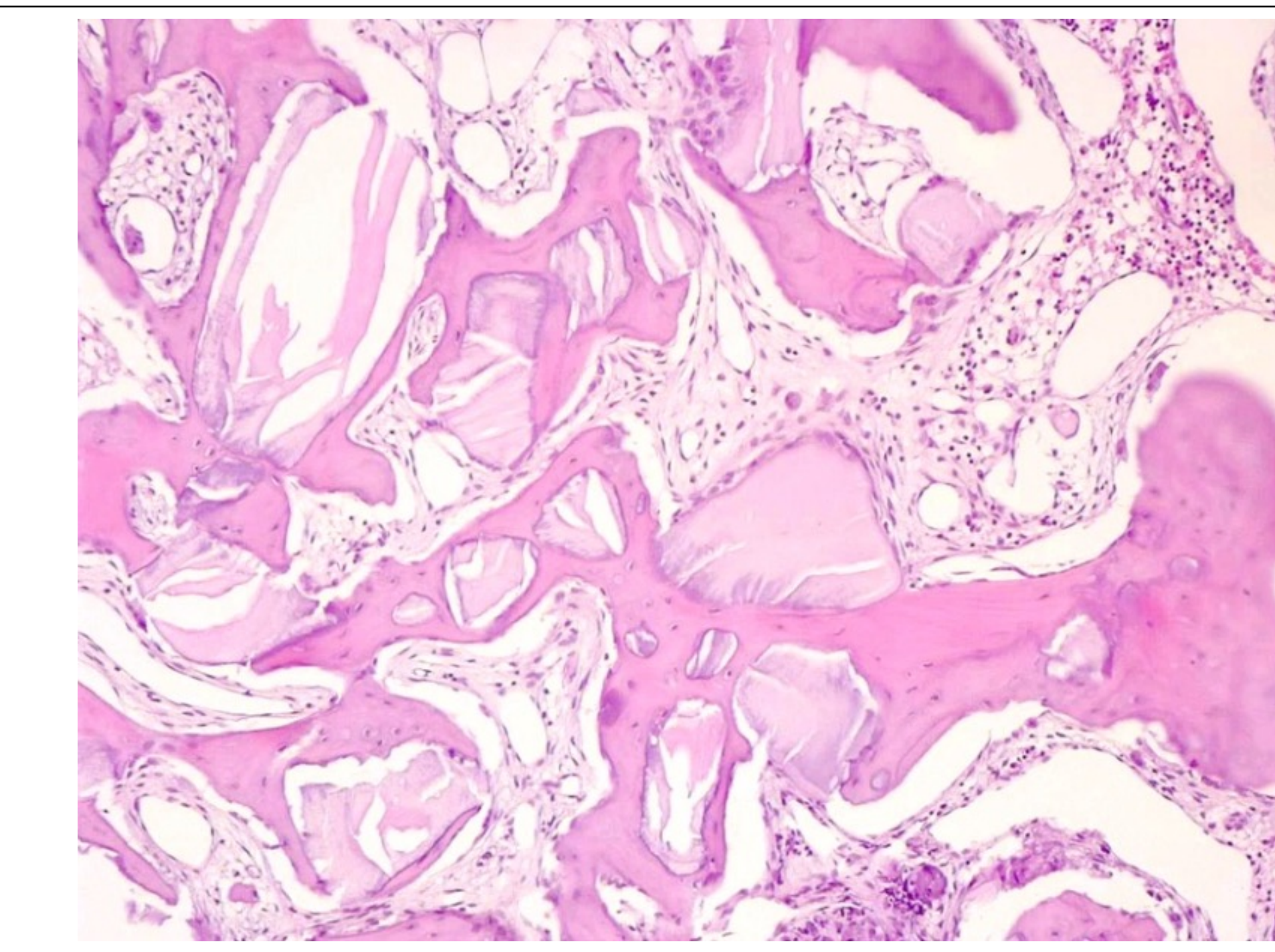
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L-PRF



XENOGENIC BONE





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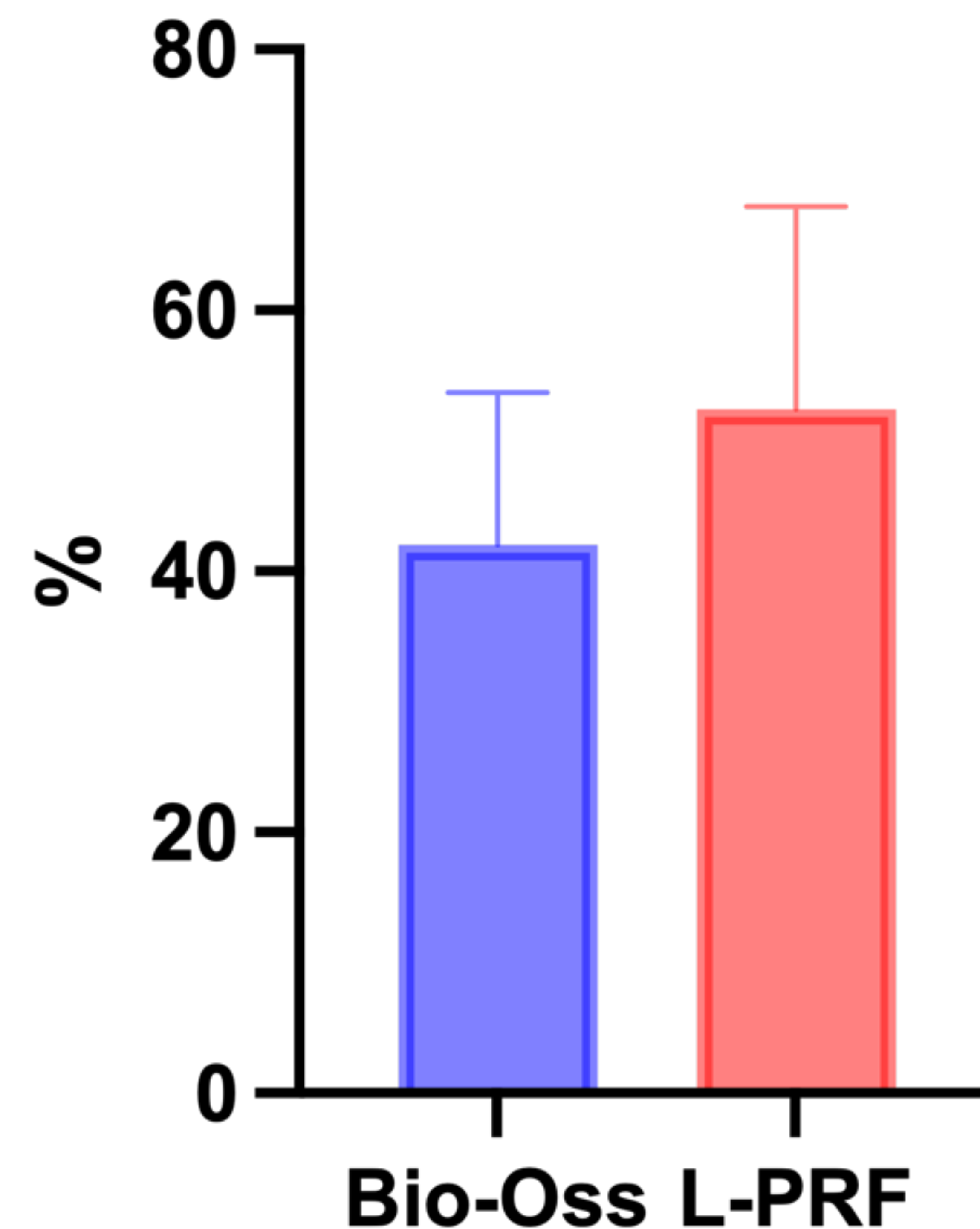
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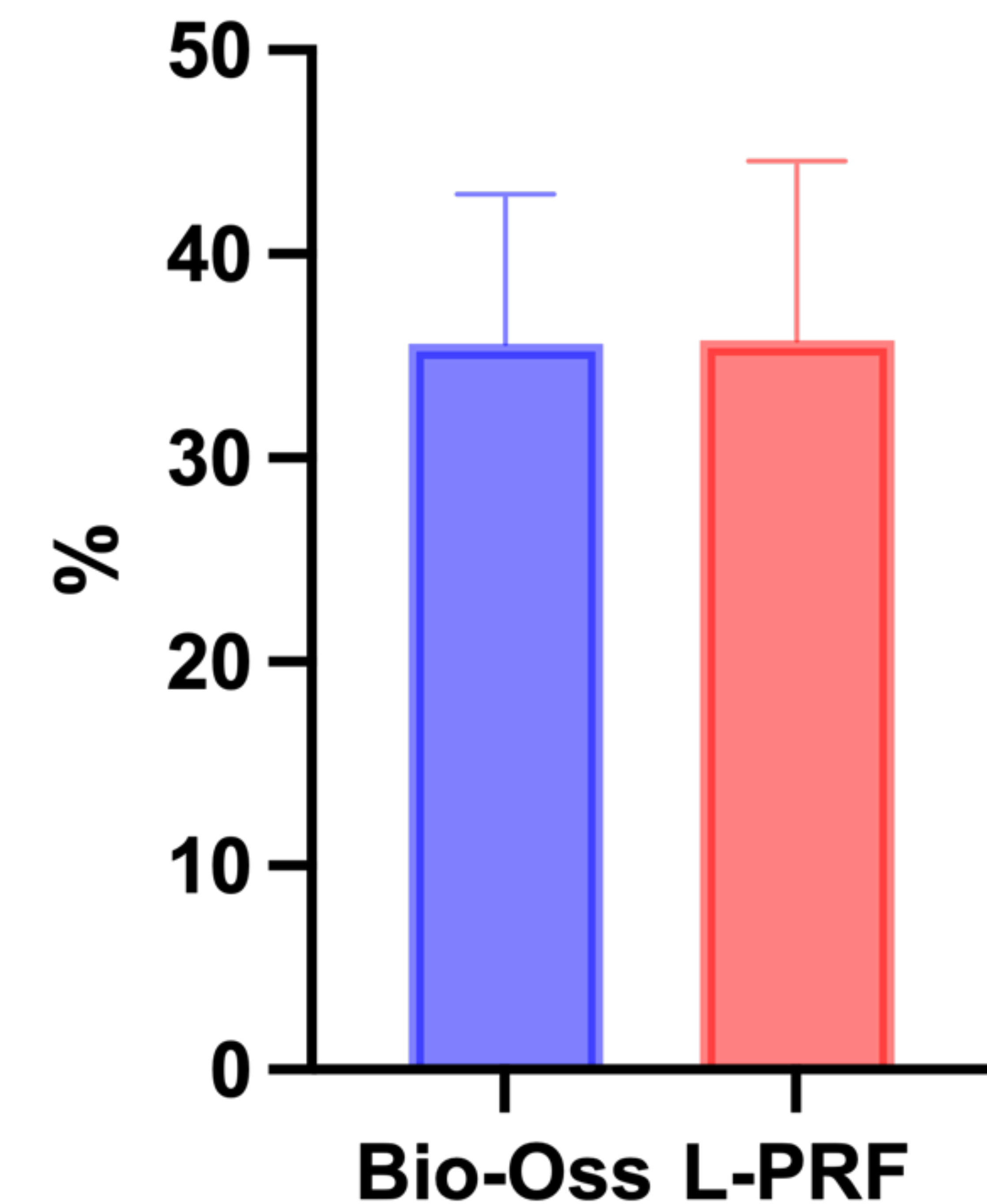
RESULTS

Mature Bone



Nineteen samples were obtained (EG: 10 ; CG: 9). Median bone formation for EG was 58.1% (IQR 35.3-79.7) and 47.3% (IQR 31.7-66.5) for CG. Median fibrous tissue for EG was 31.86% (IQR 8.9-60) and 33.12% (IQR 11.7-44.1) for CG. The residual graft material median was 8.9% (IQR 5.1-35.6) for CG. No statistical difference was found between groups for bone ($p=0.3$) or fibrous tissue ($p=0.9$).

Fibrous Tissue





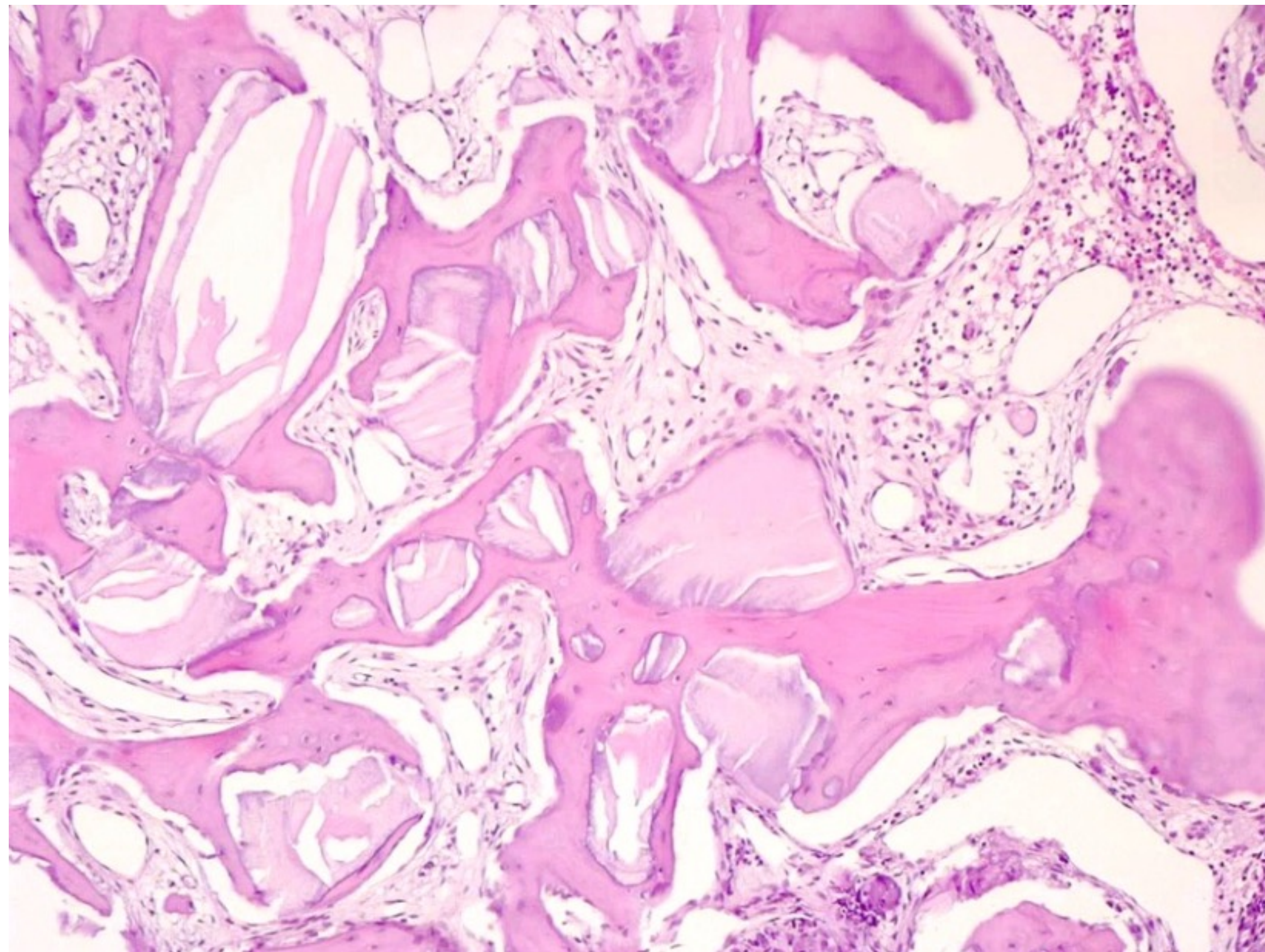
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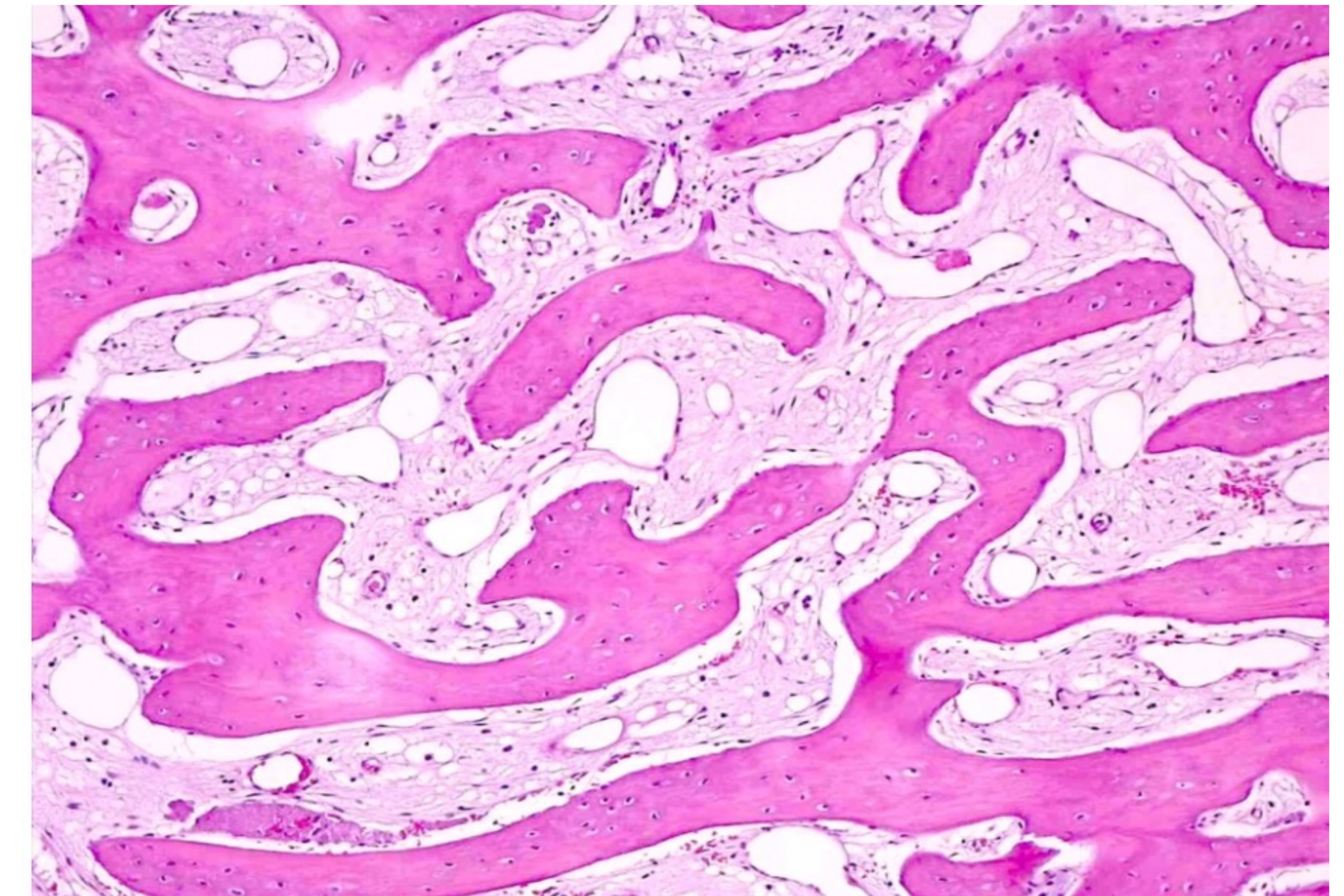
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CONCLUSION



Histology control group

Both groups showed mature bone on healing sockets after 4 months. No statistical differences were found in this small sample. Raw data show more bone formation in L-PRF group. Under these results, L-PRF could be the first material option for socket preservation due to its low price, autologous origin, and bone formation potential.



Histology experimental group

References:

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