

## INTRODUCTION

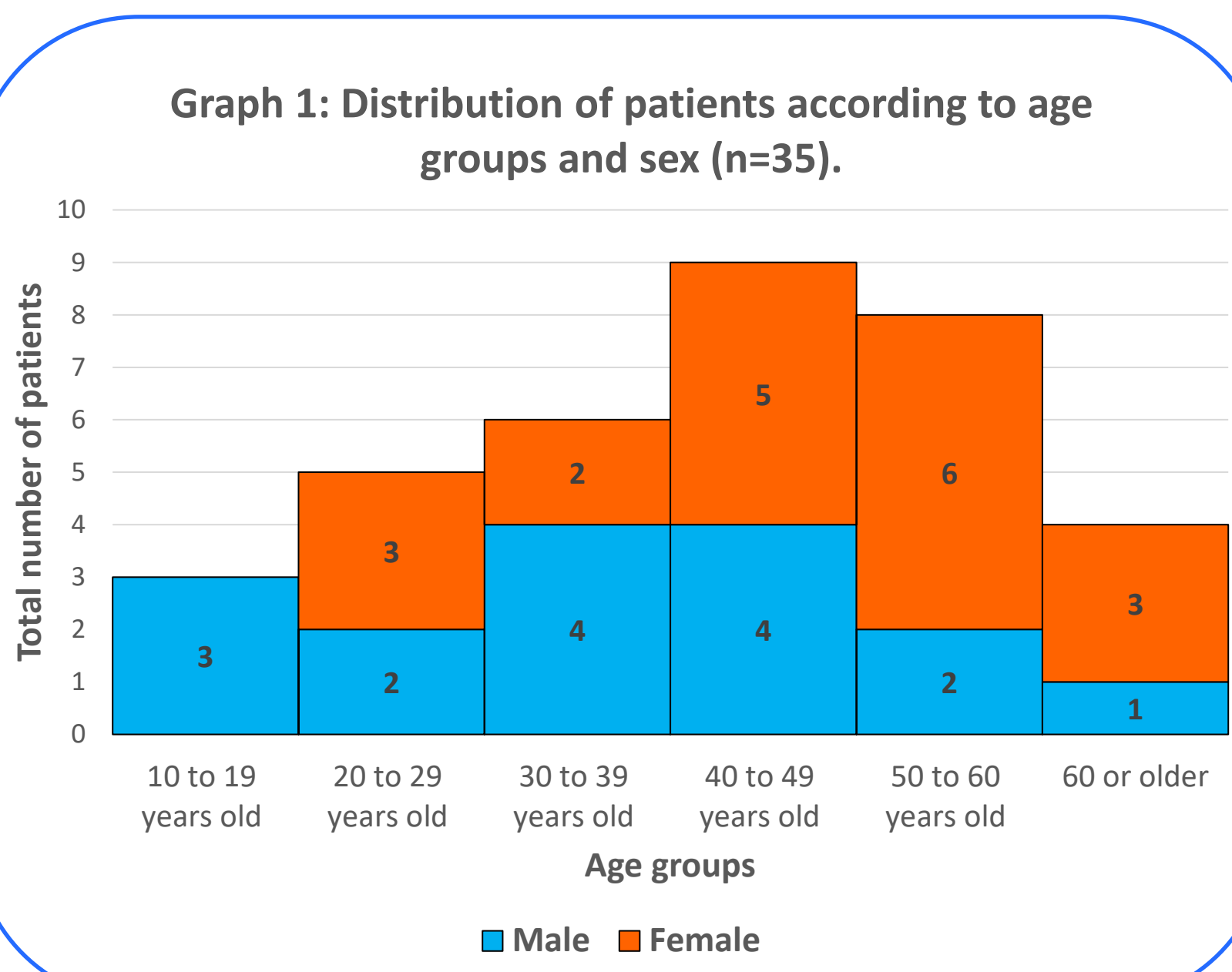
Periodontal surgery is a widely used procedure in dentistry to treat periodontal problems and restore patients' oral health. For years, numerous surgical techniques and pharmaceutical solutions have been developed to improve the healing of soft tissue. Recently, the use of biomolecules, which are substances of biological origin that are antiseptic and stimulate tissue healing processes, has been investigated. The EPX® Biomolecule, in its pharmaceutical form of Periosan Gel, is a nanostructure formed by an aggregate of chitosan nanoparticles, graphene nanoparticles and metals such as colloidal silver, complemented by essential oils. Within the area of dental care, it contributes with a regenerating, healing and antiseptic action, so its use as an adjuvant to periodontal surgical treatment was studied.

## METHODS & MATERIAL

An experimental study, phase I clinical trial, was conducted to evaluate the efficacy and safety of the EPX® Biomolecule in its pharmaceutical form of Periosan gel as an adjuvant to surgical procedures in periodontics. The quality of soft tissue healing was measured in 35 patients treated, with prior consent, by periodontal surgery assisted with EPX® Biomolecule; from January to July 2023, at the University's Polyclinic of Dental Specialties within the Mexicali's School of Dentistry, at the Autonomous University of Baja California, Mexico. The parameters of healing were measured across three post-surgical moments using the EHS (Early Wound Healing Score) index, which specifies the clinical signs of re-epithelialization, hemostasis and inflammation.



## RESULTS



Case report 1: Frenectomy and EPX® Biomolecule.



Source: Mexicali's Dental School Clinical Records

Case report 2: Periodontal surgery and EPX® Biomolecule.



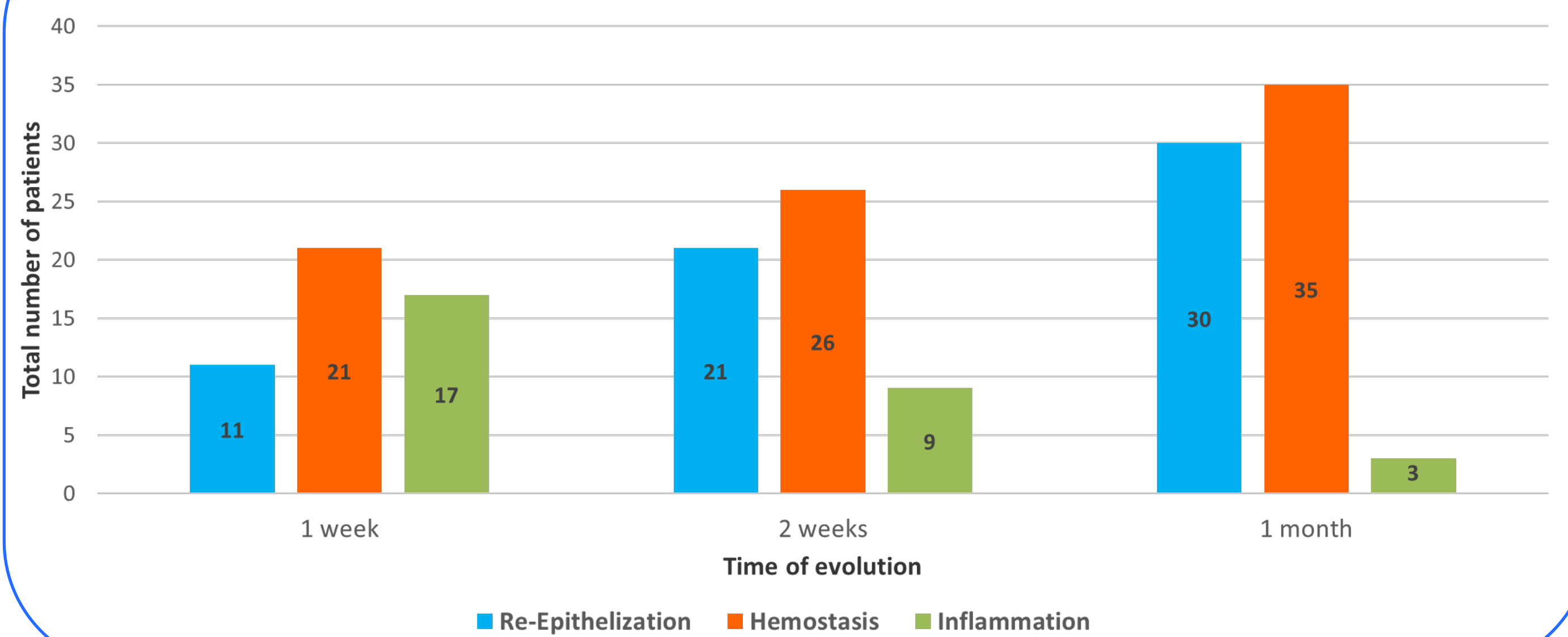
Source: Mexicali's Dental School Clinical Records

Case report 3: Surgical treatment combined with EPX® Biomolecule.



Source: Mexicali's Dental School Clinical Records

**Graph 2: Presence of post-surgical clinical signs according to the evolution time (n=35).**



## CONCLUSION

All patients had a favorable soft tissue evolution during the postoperative phase, with good healing and progressive reduction of inflammation, while hemostasis and re-epithelialization were good. No adverse reactions were reported for the topical use of EPX® Biomolecule as a transoperative gel, the doses were standardized in proportion to the surgical site and the follow-up reflected a good quality recovery of the operated epithelia and subcutaneous tissues.

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