

THE TRANSFORMATIVE POTENTIAL OF LIGAPLANTS IN REPLICATING NATURAL TOOTH CONNECTIONS

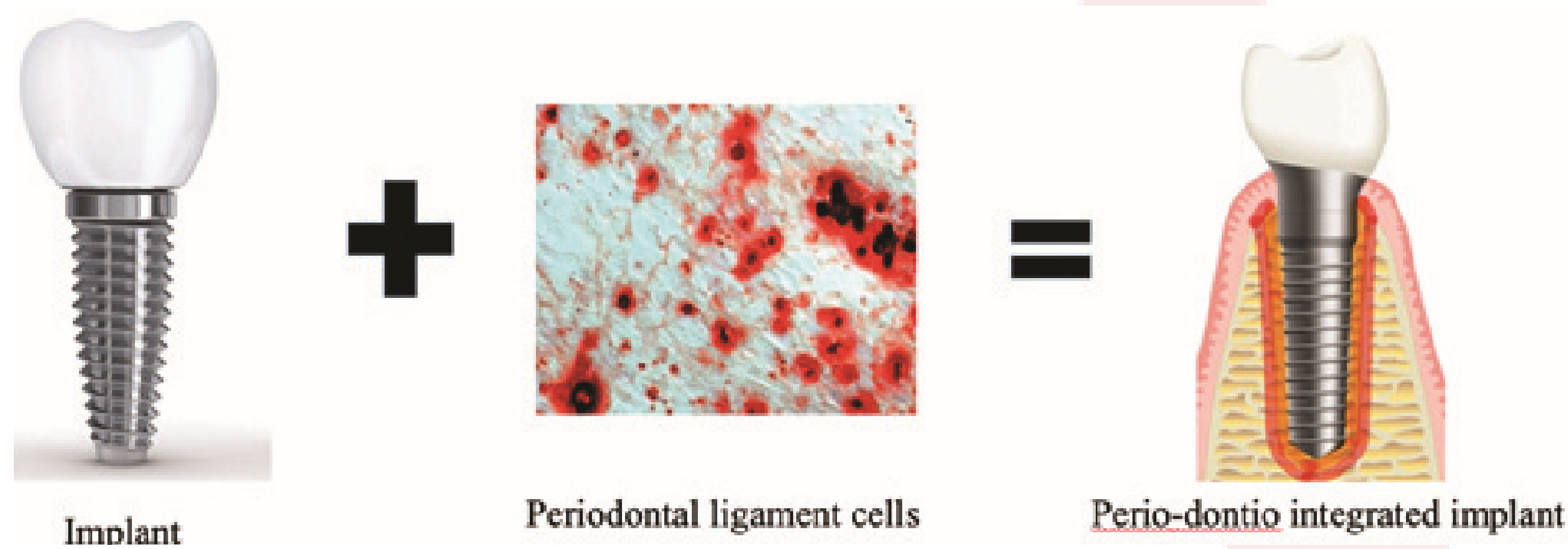


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AIM: To explore and evaluate the transformative potential of Ligaplants in the field of dental implant, focusing on their ability to replicate natural tooth connections.

INTRODUCTION

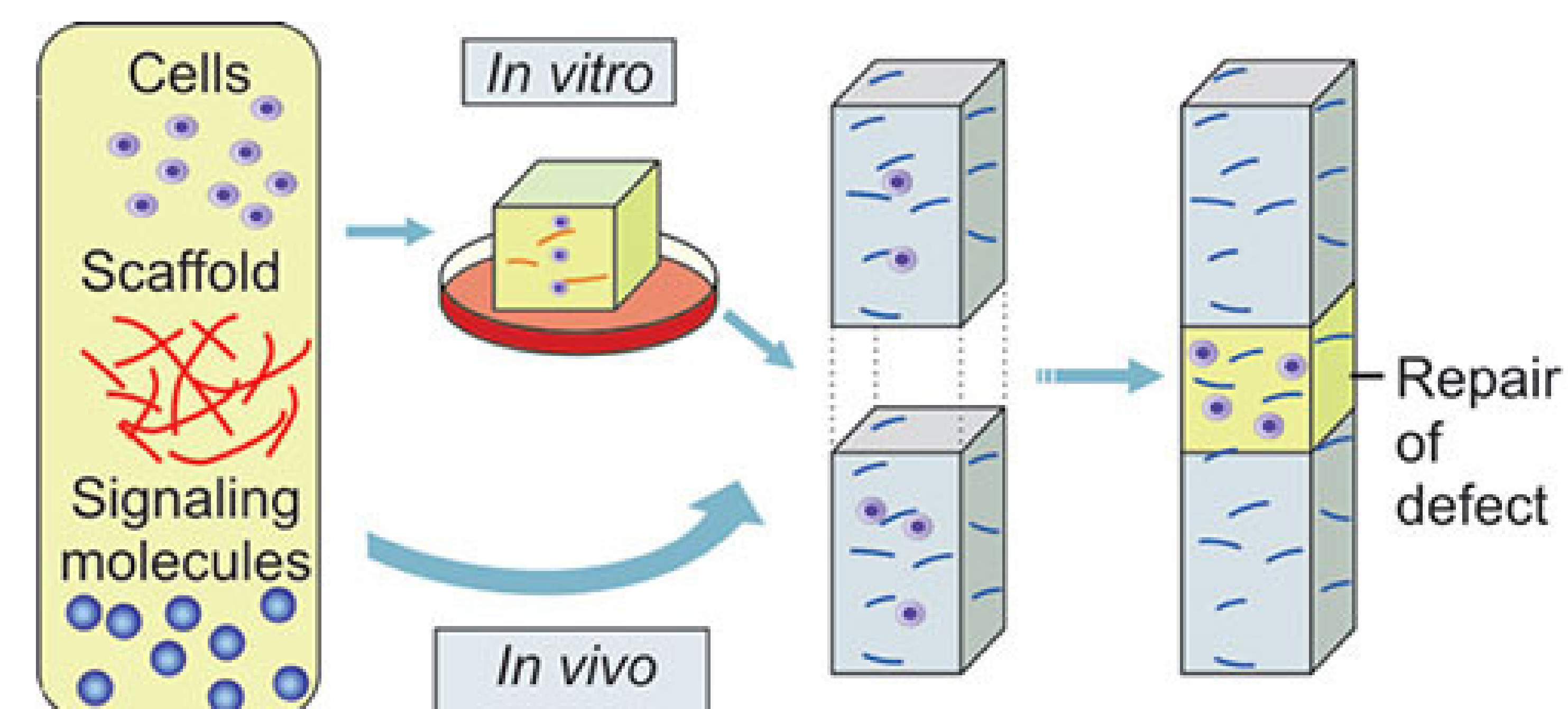
LIGAPLANTS represent a new treatment modality, combining PDL cells with implant biomaterial. Due to the inherent "ankylosed" nature of osseointegrated implants, they lack the natural mobility found in teeth with a PDL. This limitation can be addressed through the incorporation of "**shock-absorbing systems**" within the implant or its superstructure.



METHODOLOGY

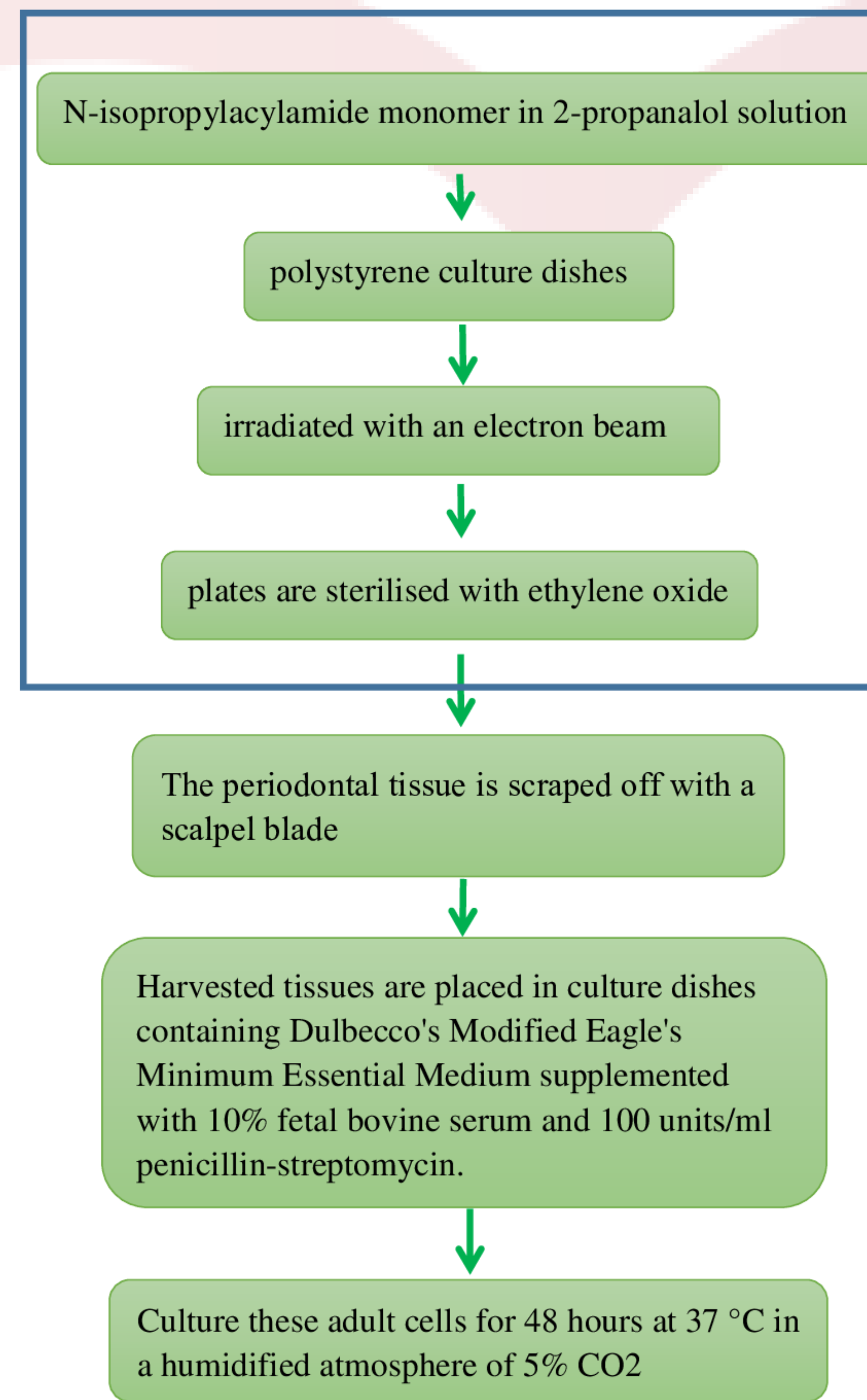
Principle Constituents of tissue engineering :

- Cells
- Scaffold
- Signalling molecules

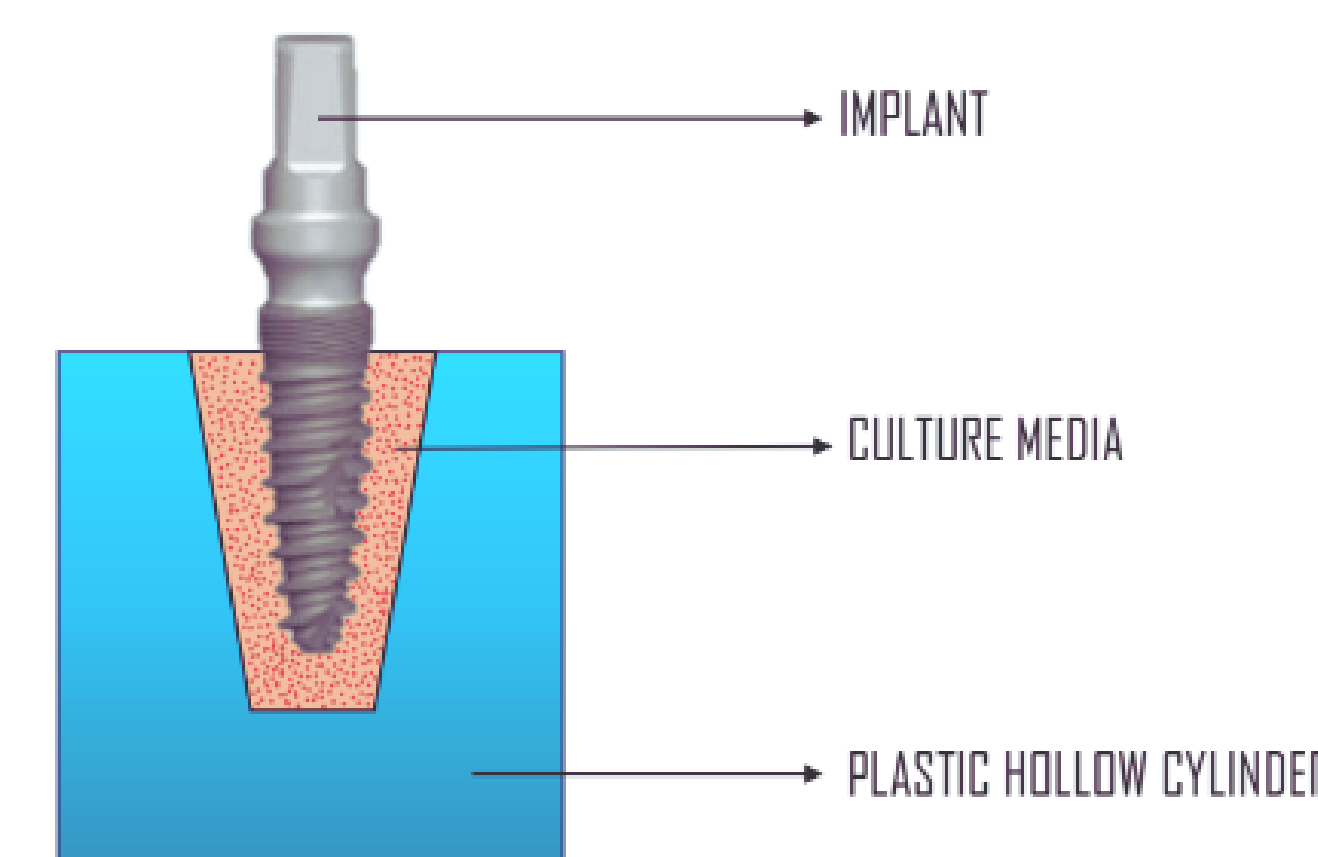
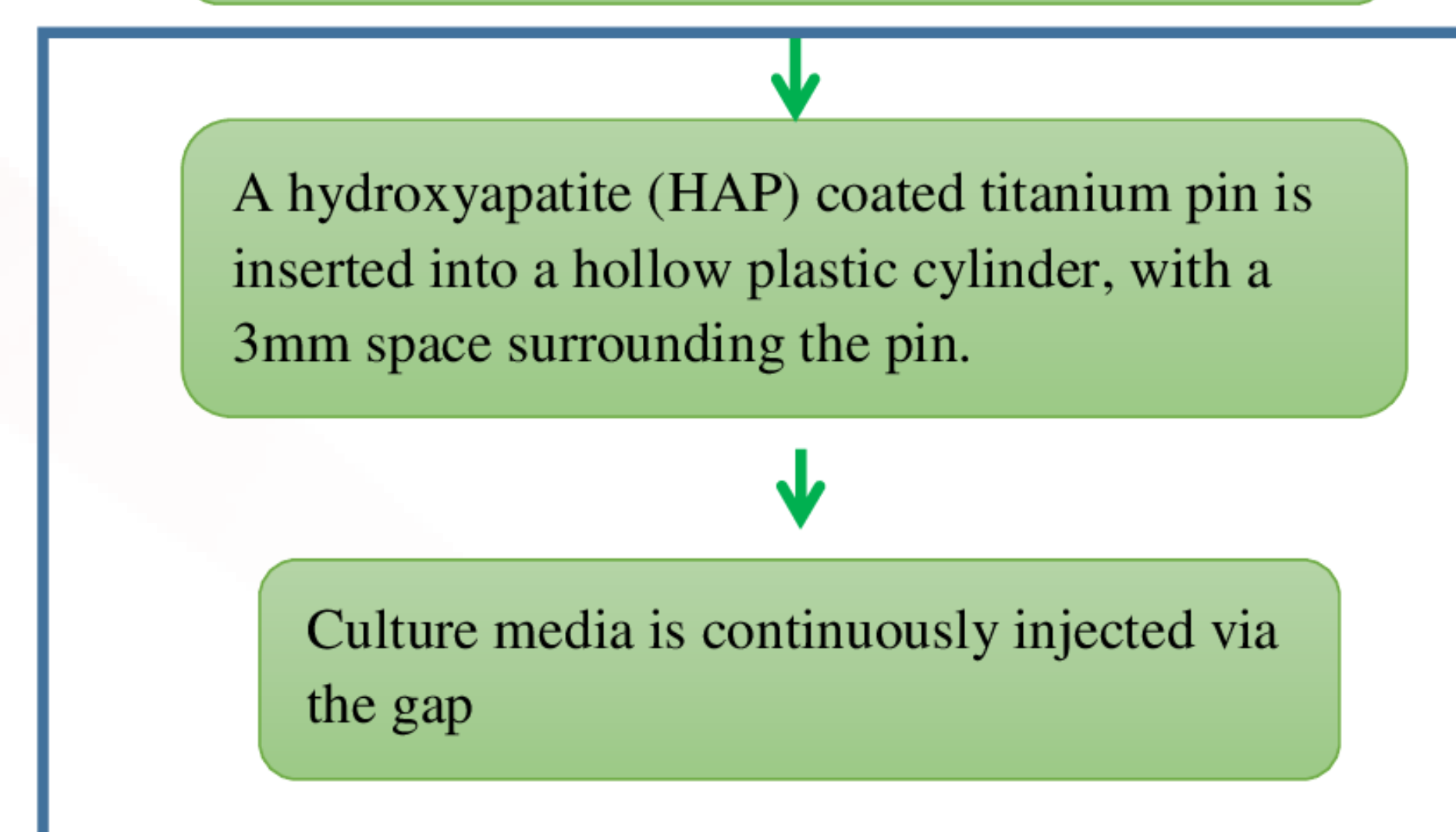


PROCEDURE

CULTURE DISH

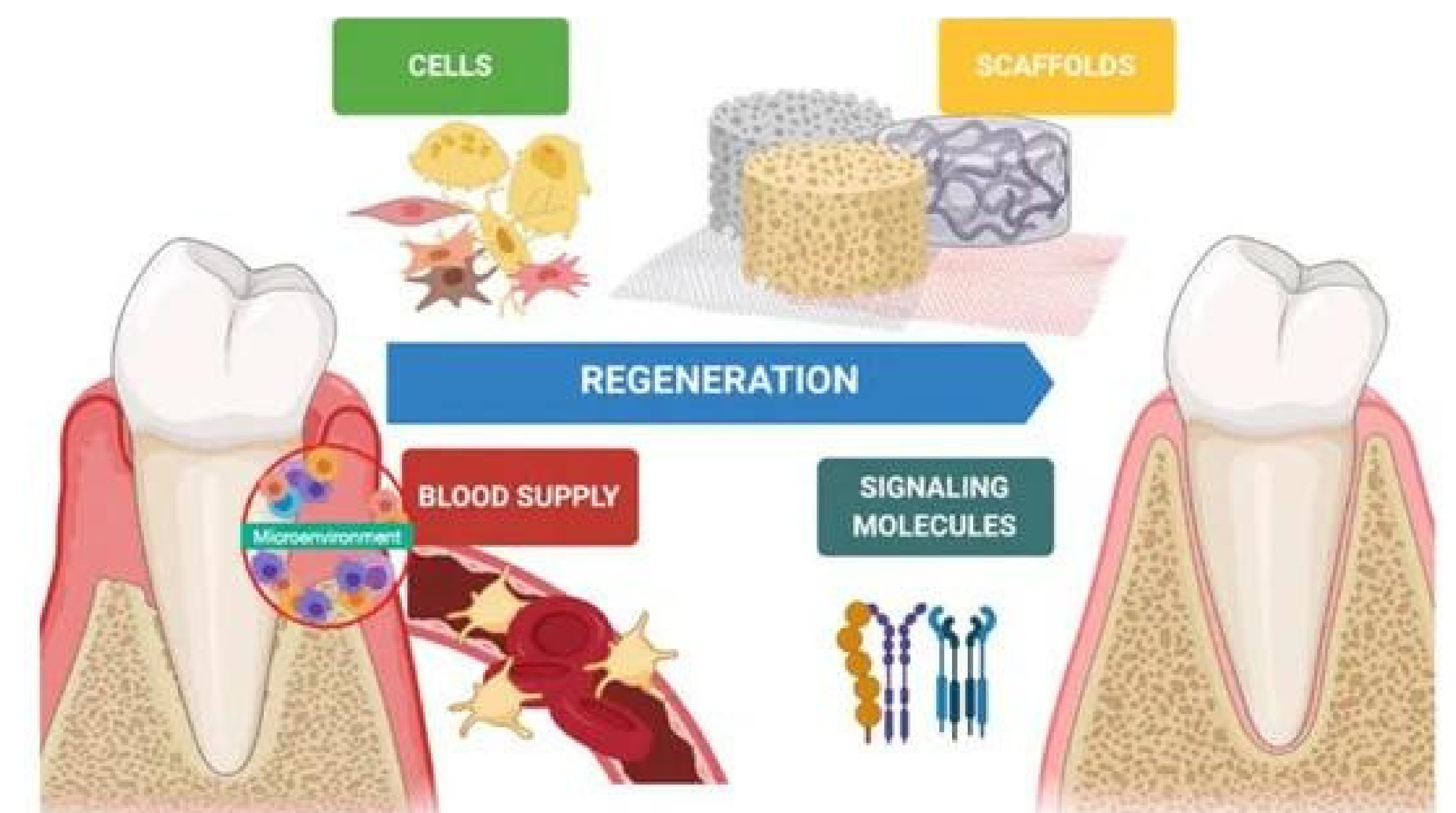


BIOREACTOR



ADVANTAGES

- ❖ IT WORKS AS A **SHOCK ABSORBER**.
- ❖ AMOUNT OF BONE LOSS IN PERI-IMPLANTITIS IS REDUCED
- ❖ REDUCES PROBLEMS LIKE GINGIVAL RECESSON AND BONE ABNORMALITIES OF THE MISSING TOOTH.
- ❖ LIGAPLANTS ADHERE SECURELY WITHOUT LOCKING OR COMING INTO DIRECT TOUCH WITH THE BONE, MIMICKING NATURAL TOOTH INSERTION DESPITE INITIAL ADJUSTMENT BEING LOOSE TO SPARE PDL CELL CUSHION.



DISADVANTAGES

- ❖ LIGAPLANTS ARE TOO EXPENSIVE.
- ❖ CULTURING SHOULD BE DONE WITH CAUTION.
- ❖ FACTORS INFLUENCING THE HOST'S ACCEPTANCE OF THE IMPLANT OR THE PDL GROWTH IN THE SOCKET CANNOT BE PREDICTED.

CONCLUSION

THIS REVIEW HIGHLIGHTS THE POTENTIAL ADVANTAGES OF PERIODONTAL LIGAMENT-COUPLED IMPLANTS AND OUTLINES THE CRUCIAL STEPS IN CREATING HIGHPERFORMANCE LIGAMENT IMPLANTS FOR THE FUTURE OF DENTAL CARE.