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Stem Cells ... A new Generation of Regeneration

Stem Cells

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Poster Award

1st Best Poster Prize

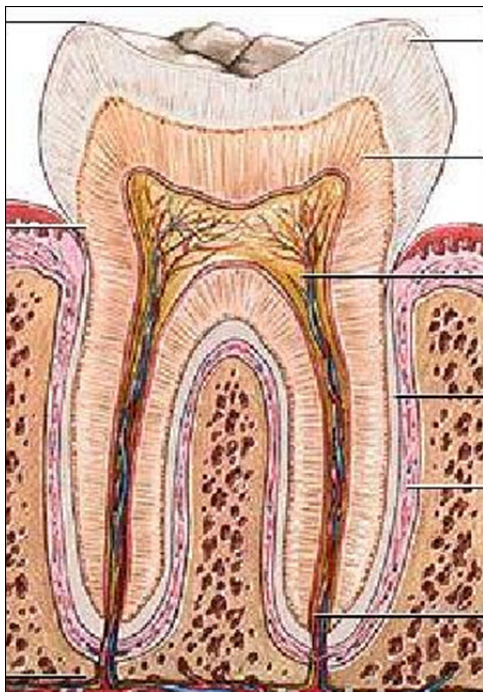


Fig. 1: Pulp and Periodontal ligament

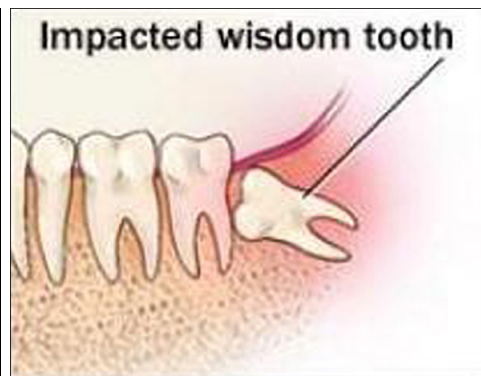


Fig. 2: Impacted third molars



Fig. 3: Dental Lamina



Fig. 4: Exfoliating Deciduous tooth

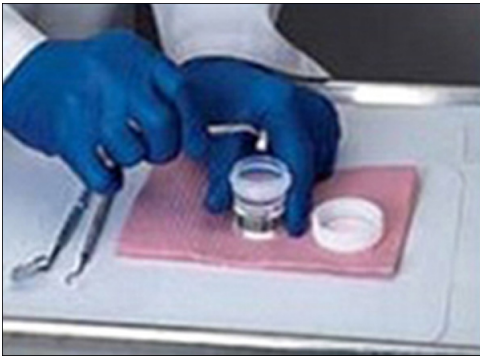


Fig. 5: Stem cell collection from a deciduous tooth in the stem save kit and cryopreservation

Fig. 6: Stem cell collection from a deciduous tooth in the stem save kit and cryopreservation

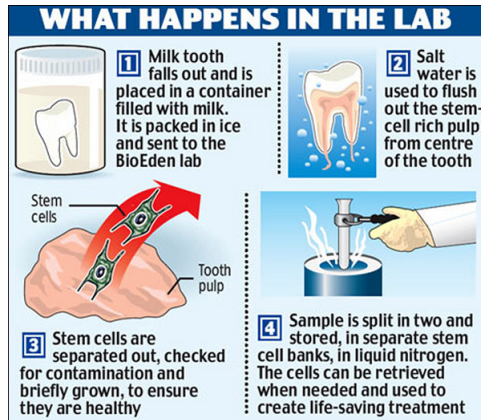


Fig. 7: Stem cell collection from a deciduous tooth in the stem save kit and cryopreservation

Fig. 8: Laboratory procedure for separation of stem cells

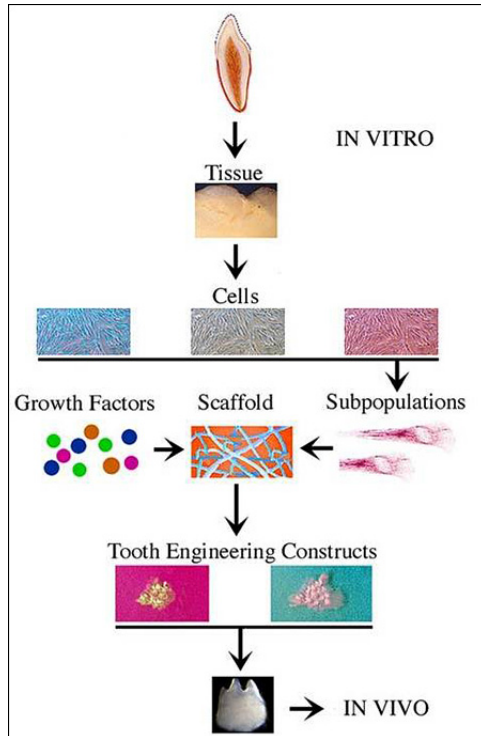
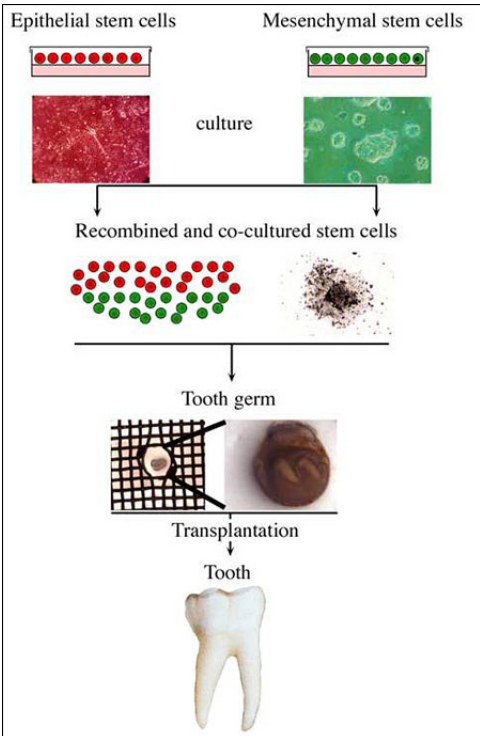


Fig. 9: Use of stem cells for tooth formation in vitro and ex vivo. A tooth germ can be created in vitro after co-culture of isolated epithelial and mesenchymal stem cells. This germ could be implanted into the alveolar bone and finally develop into a fully functional tooth.

Fig. 10: Construction of a bioengineered tooth. The association of tooth-derived stem cells with defined scaffolds in the presence of growth factors allows the creation of tooth specific constructs such as crown and root of missing parts of an injured tooth. These biological constructs could be used in dental clinics as substitutes for metal implants, crowns and restorative dental materials.



Fig. 11: Stem Cells

Conclusion

Application of stem cells in dentistry is limited due to various parameters that are not yet under control such as rejection, cell behavior, appropriate crown morphology and suitable color. Nevertheless, the development of biological approaches for dental reconstruction using stem cells is promising and remains as a challenge for years to come.

Abbreviations

K.D: Kanti Devi
B.R: Bhimrao
Dept.: Department

This Poster was submitted by Dr. Makked Garima.

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Stem cells
are derived
from

Pulp & PDL



Impacted Third Molar



Dental lamina



Exfoliating Deciduous tooth



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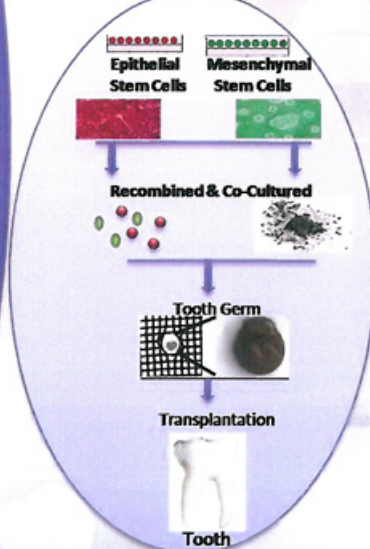
Stem cells... A new generation of regeneration

Stem cells are the class of undifferentiated cells that are able to differentiate into any specialized cell

Stem Cell Collection in Stem save Kit



Tooth Regenerated from Stem Cell engineering

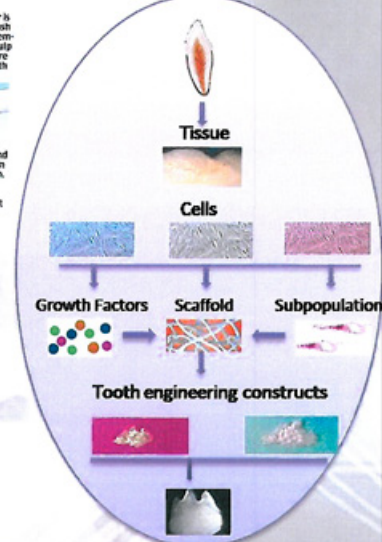


WHAT HAPPENS IN THE LAB



Stem Cells

Specific Tooth tissue Regeneration from Stem Cell engineering



Application of stem cells in dentistry is limited due to various parameters that are not yet under control such as rejection, cell behaviour, appropriate crown morphology & suitable color. Nevertheless, the development of biological approaches for dental reconstruction using stem cells is promising & remains as a challenge for years to come.