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Editorial Article

Current Concept and Future Prospectives of Stem Cells in Paediatric Dentistry: An Overview

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Introduction

The continuity of body's physiological systems is based on procreation of cells .it refers to the cells produced at the cellular level where the genetic constitutions passed on to future cells. The procreation of cells is the result of undifferentiated cells present in the body. These cells are called as Stem Cells. They are present in all multicellular organisms. The prime functions of stem cells are being firstly to renew their number and secondly to divide and differentiate into specialized tissues. Although the scope to harvest stem cells is present from all over the body, but dental stem cells are more easy to harvest, minimally invasive causing minimal trauma to the surrounding tissues or structure along with minimal ethical concerns .Dental pulp in recent years has been a major source of Mesenchymal stem cells, which can differentiate into osteoblasts, odontoblasts, adipocytes, chondrocytes and neural cells. Interestingly nature has given one set of teeth called as primary/deciduous teeth which exfoliate after a defined period of time, but has an advantage of stem cells procurement from the shedding deciduous teeth. The application of stem cells in dentistry will nullify use of non biological materials as well as the resulting in structure that is very close the original structure that was lost. Hence deciduous teeth has promising role in repair and regeneration .In continuation of the above said, pedodontists need to educate and procure himself with sufficient knowledge of stem cells procured from shedding of deciduous teeth. They also need to be trained for stem cells characteristics, possibility of applications, therapeutic prospects along with their storage. Mostly dental caries and trauma causes early-stage pulp necrosis in immature deciduous/ permanent teeth. Dead /Non Vital pulp tissues and microorganisms in teeth results in pulp necrosis leading to chronic inflammation around the apical foramen of teeth, thus resulting in open apical foramen. The endodontic treatment of such teeth with immature root has been a challenge. To achieve a better prognosis, regenerative endodontic treatment is the treatment of choice for apical foramen closure or apexogenesis. Dental Stem cells has provided promising results in achieving the goal and can be a utilized in wide variety of situations.

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