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15th Annual Congress on Dentistry and Dental Medicine

39th International Conference on Dental and Oral Health

January 24, 2024 | Webinar

Dental pulp stem cells: Biology and promise for regenerative medicine

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Background: Dental Pulp Stem Cells (DPSCs) offer great potential in regenerative medicine. Odontoblasts are naturally occurring cells that are responsible for constructing dentin for restorative dental purposes. Yet, their potential for use in the restoration of non-dental tissues is also being explored. Because of their similarities to BMSCs, DPSCs may be useful in musculoskeletal regenerative medicine, and they may be easily separated from teeth that have been pulled. The aim of this review of the literature is to provides a brief background on the discovery and function of DPSCs

Method: Information on stem cells in dental pulp, transplantation, and immunomodulation was culled from the databases Scopus, PubMed, Web of Science, Science Direct, and Google Scholar.

Results: Differentiated Pluripotent Stem Cells (DPSCs) are not derived from bone marrow like BMSCs are. These phenotypic and genetic distinctions from BMSCs are being used in neurological and other settings. Pulp tissue regeneration and the therapeutic potential of DPSCs were discussed in this article.

Conclusion: The use of stem cells in regenerative medicine has led to the development of cell transplantation techniques for pulp regeneration.

Biography

Tahani Almutairi is a board certified pediatric dentist from the Saudi Board of Pediatric Dentistry Program. Throughout her career, she has presented at a number of national and international conferences. She is currently a consultant pediatric dentist at Prince Sultan Military Medical City.

Received Date: November 14, 2023; **Accepted Date:** November 17, 2023; **Published Date:** March 19, 2024