Stem cells, a resource for patients and dentists

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editorial

The first document of the American Academy of Pediatric Dentistry, "Policy on Stem Cells", published in 2008, was aimed at providing dentists with information about the possible use of dental stem cells of their patients

Stem cells constantly differentiate and create new specialised cells to replace the dead ones and to repair and regenerate tissues. Adult stem cells can be found in every tissue, however stem cells from cord blood (isolated at birth) and from bone marrow, contained within human bones, are the most studied because they are quite simple to isolate and preserve.

Recently, stem cells are also collected from the dental pulp, a tissue rich in mesenchymal stem cells (MSC), which can be considered a personal biological treasure.

Dental pulp stem cells were identified and isolated for the first time in 2000, and they were classified according to their clonogenic ability and proliferative potential.

Although often discarded, dental pulp taken from third molars germs is an easily accessible source of MSC.

Since 2000, four types of MSC derived from the dental pulp have been identified: Human Exfoliated Deciduous Stem Cells (SHED), Periodontal Ligament Stem Cells (PDLSC), Apical Papillae Stem Cells (SCAP) and Dental Follicle Progenitor Cells (DFPC).

Particularly, stem cells obtained by deciduous teeth offer many advantages: they are readily available, grow more rapidly than those from other sources, the isolation process does not require to sacrifice the tooth, and they can be obtained with little or no trauma for the patient.

In addition, the current technology for cryopreservation of stem cells is reliable and tested. In the future, it will be possible to improve the times of cryopreservation and to lower costs.

In the meantime, we can already advise our patient not to "throw away" the treasure contained in the teeth to be extracted.

In conclusion, dentistry may contribute, also from this point of view, to the patient's current and future well-being.

We just have to believe in science and look ahead!

The Letter to the Editor should be **no longer than 300 words** and submitted to: ***luigipaglia@hotmail.com*** along with a head-and-shoulder photo of the author.