15. IS MENSTRUAL BLOOD A POSSIBLE SUSTAINABLE SOURCE OF STEM CELLS FOR REGENERATIVE MEDICINE?

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Introduction. Cells with mesenchymal stem cell properties have been discovered in menstrual blood and called menstrual blood-derived stem cells (MenSCs). They have been attracting more and more attention since their discovery in 2007 due to properties found such as: a greater proliferation and differentiation potential, painless collection process and lack of complex ethical concerns, thus making them a perspective tool in further clinical practice.

Aim of study. The objective of this study was to evaluate the latest advances in menstrual blood-derived stem cells (MenSCs) research and their application potential. Highlighting the main aspects in the stages of obtaining stem cells in the laboratory

Methods and materials. This study is a review of the literature, based on the synthesis of clinical studies published in the period 2007-2022, 40 scientific sources were researched. This article includes publications identified through Google Search Engines, PubMed Databases, etc. The information has been systematized, highlighting the most important aspects of the detection and use of menstrual blood-derived stem cells (MenSCs).

Results. The human endometrium is a dynamically remodeling tissue that undergoes monthly cycles of growth, differentiation and elimination approximately 400 times until menopause. Compared to stem cells from bone marrow and adipose tissues, MenSCs originate from body secretions and obtaining them is non-invasive to the body, easy to collect, and there are no ethical concerns. There is therefore a growing interest in the functions of MenSCs and their potential application in regenerative medicine.

Conclusion. In recent years, researchers have gained more interest in MenSCs due to their advantages. Menstrual blood collection and processing protocols need to be evaluated and refined and adapted to the conditions of the Tissue Engineering and Cell Culture laboratory.